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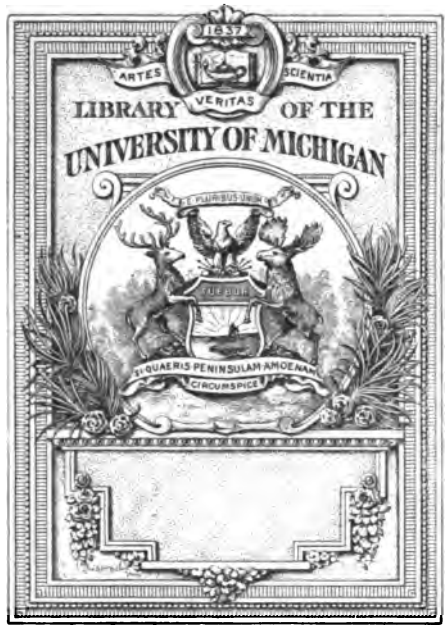
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THE

RETROSPECT

OF

PRACTICAL MEDICINE AND SURGERY,

BEING

A Half-yearly Journal,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

Edited by

W. BRAITHWAITE,

Surgeon to the Leeds General Eye and Ear Infirmary; and Lecturer on Midwifery, and the Diseases of Women and Children, in the Leeds School of Medicine.

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CONTENTS OF NO. IV.

PRACTICAL MEDICINE.

ARTICLE.		AUTHOR.	PAGE.
1.	Rectification in the Practice of Auscultation and Percussion.	*Dr. Joseph Skoda*	7
2.	On Colchicum Autumnale	— *R. Lewins, jun*	10
3.	Use of Secale Cornutum	— *George Fyfe*	14
4.	Process for preparing a pure and concentrated watery Solution of Opium, free from Narcotine	*Messrs T. & H. Smith.*	17
5.	Further Observations on the Oxide of Silver	*C. H. B. Lane, Esq*	18
6.	Poisoning by Laudanum treated by Electricity	*Dr. C. H. B. Williams*	19
7.	On the Propagation of the Variolæ Vaccinæ by Crusts from the Cow	— *John Baron, F. R. S.*	21
8.	Treatment of Sore Throat or Angina, by Alum	*M. Velpeau*	22
9.	Sulphate of Alumina and Potass in Hæmorrhage	*Dr. M. H. Lynch*	23
10.	Oxide of Zinc in certain Forms of Convulsions	— *Hennis Green*	25
11.	Treatment of Tape Worm	— *Wawruch*	26
12.	On Hippuric Acid	— *Alexander Ure*	27
13.	Treatment of Spasmodic Affections of the Larynx with Veratria	— *Tunstall*	29
14.	Tincture of Aconite in Neuralgia and Chronic Rheumatism	*Joseph Curtis, Esq*	30
15.	On the Structure of the Small-Pox Pustule, &c.	*W. H. Judd, Esq*	31
16.	Treatment of Acute Articular Rheumatism by large doses of Nitrate of Potash	*M. Aran*	34
17.	Treatment of Hæmoptysis with Tartrate of Antimony	*Dr. Stoll*	35
18.	Croton Oil for Nervous Disorders	*John Cochrane, Esq.*	36
19.	Treatment of Chorea	*T. H. Wardleworth*	37
20.	New Plesser and Plessimeter	*Dr. Burne*	39
21.	Tetanus cured by Tobacco	*H. Bullock, Esq*	40
22.	On Vaccination and Small-Pox	*Dr. Gregory*	43
23.	Efficacy of Opium Injections in Cases of Nervous Excitement	— *Maddock*	44
24.	Colica Pictonum treated with Warm Water	— *John Wilson*	44
25.	Treatment of Pneumonia	— *Watson*	45
26.	On the Use of Setons in Paraphlegia, &c.	— *Marshall Hall*	46
27.	On Asphyxia, and on the Resuscitation of Still-born Children	*John Snow, Esq*	47
28.	Formula for Oleum Cantharidis and Emplastrum Cantharidis	*Joseph Smith, Esq*	48
29.	On the Preparation of Vinum Ferri	*M. Donovan, Esq*	49
30.	Treatment of Acute Rheumatism	*M. Aran, &c.*	49
31.	On the Hydrocephaloid Disease	*Dr. Marshall Hall*	50
32.	Belladonna in cases of Ileus	*M. Becker*	52
33.	Contraction of the Fingers Cured by Electricity	*M. Breschet*	53
34.	Acupuncture of the Heart in Apparent Death	*Dr. A. Carraro*	53
35.	On Large Doses of Iodide of Potassium in the last State of Acute Hydrocephalus	— *Roeser*	54
36.	Treatment of Chorea	— *Hennis Green*	55
37.	On Local Baths	*M. Mayor*	55
38.	On Croup and its Cure	*Dr. Grahl*	56
39.	On the Iodide of Iron	*M. Donovan, Esq*	56
40.	Hints for the Administration of Iodine	*Dr. Mojsisovitz*	58
41.	Mode of Treating Itch at Berlin	— *Hauck*	59
42.	Leaves of the Walnut in Scrofula	*Professor Negrier*	60
43.	On the best Mode of employing Electricity or Galvanism in the Cure of Neuralgia	*M. C. James*	62
44.	Hydrocyanate of Iron, a Cure for Epilepsy	*M. Jansen*	63
45.	On Paralysis of the Seventh Pair of Nerves	*M. Constantin James*	63

191657

46. On the Sulphate of Quinine in the Typhus of Children... 64
47. Chloride of Barium in Scrofulous Affections.....*M. Payen*..... 64
48. Hydro-Sudopathic Treatment of Disease.....*M. Gibert*..... 64
49. Artificial Sea Water..... 65
50. On the Employment of Cold Affusion in Acute Hydrocephalus.....*Dr. Munchmeyr*..... 65
51. On the Liquor Hydriodatis Arsenici et Hydrargyri.....*M. Donovan, Esq*..... 66
52. Treatment of Chronic Pleurisy with Effusion.....*Dr. James Hope*..... 68
53. Treatment of Acute Tropical Dysentery.....*Dr. Robert Lewins*.... 71
54. Strychnine in Chorea.....*M. Foulhioux*..... 72
55. Ergot of Rye.....*M. Bonjeau*..... 73
56. Preparation of the Hydriodate of Potash Ointment.....*Messrs. T. & H. Smith* 73
57. How to make Copaiba into Pills..... 73

SURGERY.

58. On certain Structures of the Orbit, and an improved Method of Treating its Diseases.....*J. M. Ferrall, Esq*.... 74
59. Observations on Talipes.....*James Braid, Esq*.... 80
60. Modification in the Operation of Depression for Cataract..*John Morgan, Esq*.... 87
61. On a Method of Restoring the Lower Lip after various Operations.....*Dr. A. Buchanan*..... 88
62. The Comparative Advantages of Circular and Flap Amputations.....*R. Alcock, Esq*..... 89
63. Caoutchouc Thread for Sutures.....*Thos. Nunneley, Esq*.. 91
64. Catoptrical Exploration of the Lens.....*Dr. Watson*..... 94
65. Use of Injections in Gonorrhœa.....*W. Acton, Esq*..... 95
66. Use of Morphia in Strangulated Hernia.....*Dr. Bell*..... 96
67. Apparatus for applying Water in the Form of Irrigation..— *Jas. Macartney*... 98
68. Radical Cure of Hydrocele.....*M. Velpeau*..... 99
69. On the Employment of Nitrate of Silver in White Swellings.....*M. Jobert*..... 100
70. Treatment of Burns by Soap.....*Dr. T. Williamson*.. 101
71. On the Excision of Joints.....*Bransby Cooper, Esq*. 101
72. Gruber's Ear Speculum—Lapis Divinus in Otorrhœa.....*J. H. Curtis, Esq*..... 102
93. Iodine in Opacity of the Cornea.....*Dr. Lohsse*..... 104
74. Use of Compression in Mammary Abscess .....*Trousseau & Contour* 104
75. On the Application of Oil Varnish to the Immoveable Apparatus, in Fractures of the Limbs in Children.....*M. Tavignot*..... 105
76. Extract of Belladonna in the Reduction of Paraphimosis..*Dr. Mignot*..... 105
77. Reduction of Hæmorrhoidal Tumours..... 106
78. Treatment of Urinary Fistulæ.....*M. Ricord*..... 106
79. Isinglass Plaster..... 106
80. Cure of Crooked Nose by Subcutaneous Division of the Cartilages.....*Prof. Dieffenbach*.... 107
81. Cure of the Slighter Degrees of Strabismus without Division of the Muscles.....*Ditto*..... 108
82. Hereditary Ptosis.....*Signor Alessi*..... 108
83. Malignant Looking Ulcers of the Face, reputed Cancerous, cured by Anti-Syphilitic Remedies.....*M. Payan*..... 108
84. { Ocular Myotomy in certain Cases of Amaurosis.....*M. Petrequin*..... 109
{ Subcutaneous Myotomy in Entropion.....*Ditto*..... 109
85 Suture of the Conjunctiva after Division of the Adductor..*M. Cunier*..... 110
86. Effects of Immobility on the Articulations.....*M. Kissier*..... 110
87. Pseudo-Strangulations of Herniæ.....*M. Malgaigne*..... 111
88. Cyanide of Potassium in Acute Articular Rheumatism....*M. Malherbe*..... 112
89. On Club-Foot.....*Dr. Guerin*..... 113
90. New System of Bandaging.....*M. Rigal*..... 113
91. On Excision of the Elbow-Joint.....*M. Roux*..... 113
92. Treatment of Recto-Vaginal Fistulæ.....*M. Petrequin*..... 113
93. Extraction of a Gold Pin passed far into the Urethra.....*Dr. Boinet*..... 115
94. Reduction of a Strangulated Hernia, apparently effected by Acupuncture.....— *Daser*..... 116
95. Apparatus for Oblique Fractures of the Shaft of the Femur.....*D. Focachon*..... 116
96. Hæmorrhage after Lithotomy stopped by Creosote..... *Mr. Daser*..... 117
97. Action of Hydrocyanic Acid, &c., on the Eye..... *Dr. Turnbull*..... 117

MIDWIFERY.

98. New kind of Pessary.....*Chas. Clay, Esq*..... 119
99. Polypus of the Uterus expelled by the Action of Secale Cornutum.....*M. P. Moyle, Esq*.... 120
100. Case of Cæsarian Section.....*James Whitehead, Esq.* 122
101. Curious Case of Dropsy of the Amnion.....*Jon. Toogood, Esq*... 125
102. On the Immersion of Children apparently Still-born, in Cold Water.....*Dr. Scholer*..... 126
103. On Congenital Asphyxia..... — *Marshall Hall*.... 126
104. Use of the Tourniquet to restrain Hæmorrhage after Delivery.....*Wm. Pretty, Esq*.... 127
105. The Use of the Actual Cautery in Procidentia Uteri.....*J. Adair Lawrie, Esq*. 129
106. Accidental Rupture of the Uterus and Escape of a Fœtus into the Abdomen.....*H. K. Randall, Esq*. 130
107. Supposed Menstruation during Gestation, and Amenorrhœa in the Intervals..... 132
108. Absence of the Uterus.....*E. P. Bennet, Esq*.... 133
109. On the Advantage of Keeping the Umbilical Cord Whole for some short time after Birth.....*M. Baudelocque*..... 135
110. Parturition Without Consciousness.....*T. E. Rawson, Esq*... 135

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

111. On the Signification and Ends of the Portal Circulation..*Dr. R. Willis*..... 136
112. On the Connexion Between Malaria and the Spontaneous Evolution of Sulphuretted Hydrogen from different Localities.....*Professor Daniell*.... 137
113. Outline of a Philosophical History of the Reproductive Function.....*Dr. W. B. Carpenter.* 144
114. Poisoning by Arsenic..... 145
115. Subcutaneous Operation in Cases of Hernia.....*M. Guerin & M. Bouchet* 146
116. Spontaneous Cure of Dropsies.....*M. Mondiere*..... 148
117. Formation of Bone.....*M. Flourens*..... 148
118. Nutritive Power of Gelatine..... 149
119. Sounds of the Heart..... 150
120. Cause of Hare-Lip.....*M. Bouisson*..... 150
121. Tinea Favosa, a Vegetable Production 151
122. Functions of the Skin.....*M. Ducros*..... 151

RETROSPECT.

Comprising Twenty-eight Pages..... 153

BIBLIOGRAPHICAL NOTICES.

A Treatise on the Nature, Causes, and Treatment of Erysipelas. By Thomas Nunneley, Lecturer on Anatomy, &c., &c..... 171
Practical Observations on the Injuries of the Head. By William Sharp, F.R.S., F.G.S., F.R.A.S., &c., &c..... 172
The Cyclopædia of Practical Surgery.—Article "Intestinal Fistulæ." By Thomas P. Teale, F.L.S., Surgeon to the Leeds General Infirmary, &c..... 172
The Physiology of Digestion, considered with relation to the Dietetics. By Andrew Combe, M.D., Second Edition..... 172
On the Remote Cause of Epidemic Diseases. By John Parkin, Fellow of the Medical and Chirurgical Society of London, &c.. &c..... 173

PRACTICAL MEDICINE,

&c. &c.

Art. 1.—RECTIFICATIONS IN THE PRACTICE OF AUSCULTATION AND PERCUSSION.

By Dr. Joseph Skoda, Teacher of Clinical Medicine in the Hospital of Vienna.

(*Communicated by Dr. William Drysdale and Dr. John Russell.*)

[The following observations on Auscultation, extracted from the lectures of Dr. Skoda, of Vienna, by Dr. Drysdale and Dr. Russell, will be interesting to the English reader; as they place in a new light many facts which we have been accustomed to view differently. They have, moreover, been revised by Dr. Skoda himself.

All will acknowledge, that as the voice is produced in the larynx, it must invariably be transmitted thence to the different parts of the chest; and at first sight it would appear that the common opinion entertained by the profession is correct, namely, that its greater or less distinctness is owing to the good or bad conducting power of the parts lying betwixt the larynx and the parietes of the chest. The correctness of this opinion, however, is very doubtful. For example, in pneumonia, when there is hepatization of the lung, the voice is sometimes distinct, and at other times very indistinct, while percussion shows that no particular change has taken place.]

The cause of the occasional disappearance of the resonance of the voice is the obstruction by fluid matter of the bronchial tubes of the hepatized portion of the lung; for the resonance reappears readily when the patient makes a deep inspiration or coughs. This disappearance and return of the resonance, while in other essential particulars the hepatization remains the same, does not accord with the commonly assigned cause; for, according to it, it would be a matter of indifference whether the bronchial tubes contained air or not. In pleuritic effusion into the cavity of the chest, the intensity of the resonance of the voice diminishes as the quantity of the exudation increases; while the contrary should happen if the increased distinctness of the voice at any stage of the effusion depended on the superior conducting power of the interposed fluid.

The question of the superiority in conducting power of dense over rare bodies, has been too much regarded as an abstract law, without paying sufficient attention to the particular circumstances which may modify or prevent its operation. It is quite true that dense bodies conduct the sound more readily than rare ones, but only if the sound be confined to the medium in which it is formed, for it passes with difficulty from one medium to another. For example, the slightest scratching at the end of a long pole is heard distinctly when the other end is placed in contact with the ear, while, if this be not done, (*i. e.* if the sound be transmitted by the air,) nothing at all is heard. The striking together of two stones under water, when the head is immersed, is distinctly heard, while no sound is audible when it is taken out. On the other hand, the human voice, which is formed in the air, is heard furthest in that medium. When the head is dipped into water, sounds produced in the air are heard very faintly or not at all; and solid substances, as a board

or a wall, interrupt sounds more or less completely. The laws of physics teach us further, that sound is more or less reflected in its transmisson from a rare medium to a denser one, and that the new medium takes up less than would have been propagated in the same space had it remained in the medium by which it had been till then transmitted; and the less sound is taken up by the new medium, the greater the difference of consistence and coherence between the two media. The reason why enclosed passages and tubes whose walls are of solid materials conduct sounds better than the open air is, because they reflect the vibrations which are thus confined to a small space, and prevented from being dispersed and lost in the surrounding air. If the walls of the tube were instrumental in conducting the sound, it is singular that a hollow tube should be used as a stethoscope, and not a solid cylinder of wood or metal. The voice, therefore, reaches the parenchyma of the lungs, not through the solid parts, but through the air in the trachea and bronchia, and ought to be carried further in the healthy lung, in which the air penetrates, into the air-cells, than in the hepatized lung, where the air-cells and smaller bronchia are obliterated. The vibrations, likewise, should pass more easily from the ear into the light tissue of the healthy lung than to the condensed parenchyma of the hepatized one, according to the law explained above.

A consideration of these facts would be almost sufficient in themselves to prevent us from acquiescing in the ordinary opinion, that the reason of the voice being louder when the lung is hepatized, than when it is sound and spongy, depends upon its being better conducted by the tissue of the lung when dense than when in its natural condition. Moreover, Dr. Skoda has set this matter at rest by the following simple experiment, which he usually performs in the presence of his class, and which any one may easily repeat.

If the ear be applied to a stethoscope placed successively on corresponding parts of a sound and then of a hepatized lung removed from the body, the voice of another person who speaks through a stethoscope placed upon the lung at an equal distance in both cases, will be heard somewhat more distinctly in the sound than in the hepatized lung; but the distinction is so insignificant that, were the reverse the case, it would not account for the very marked difference in such a condition of the lungs in the living subject.

Dr. Skoda explains the different degrees of strength of the voice in the chest by the law of consonance.

The fact that a sound can be heard, observes Dr. Skoda, as distinctly at a distance as at the place where it is produced, can only be explained, either by its diffusion being prevented, and its being obliged to remain concentrated during its progress, or by its being reproduced in its course by means of consonance and thus increased. But if a sound be heard louder at a distance than at the place where it was originally formed, this must be by means of consonance alone.

Consonance is a term adopted by Dr. Skoda to express a well known phenomenon; and it may be here properly explained.

A tense guitar string sounds in unison with a note produced in its vicinity, either by another musical instrument or by the voice. A tuning fork held in the air emits a much weaker sound than when placed upon a table or chest. The table or chest must increase the intensity of the sound, by assuming the same vibrations as the tuning fork, or, in other words, by consonating with it. The note of a Jew's harp is scarcely perceptible when it is struck in the air, and it is heard much more distinctly when played in the mouth. Thus the air in the mouth must increase the sound of the Jew's harp, *i. e.* must consonate with it.

It sometimes happens that the voice is heard more strongly at the thorax, than at the larynx, which in itself is sufficient to show that its strength is in

creased by means of consonance within the chest. The different degrees of the intensity of the voice heard at the thorax, may be explained by the different strength of the consonance within the chest. To ascertain these changes we must discover what it is within the chest that consonates with the voice, and by what circumstances the consonance is liable to be altered.

The voice as it issues from the mouth is composed of the sound formed at the larynx and the consonating sounds produced in the pharynx, mouth, and nasal cavities. This is shown by the alteration the voice undergoes by the shutting and opening of the nostrils and mouth, while there is no change made in the larynx. The pitch of the voice is evidently fixed by the larynx alone, and the opening and shutting of the nostrils and mouth has no influence upon it; the articulation of the voice, however, and its timbre depend upon the mouth and nostrils.

As it is certain that the air in the pharynx, mouth and nostrils, consonates with the sound formed in the larynx, there can be no doubt that the air in the trachea and bronchiæ may also be thrown into consonant vibrations with the sounds formed at the larynx. Hence it is the air in the chest and not the parenchyma of the lungs which consonates with the voice at the larynx, as the latter seems ill adapted for consonating, being neither stiff nor sufficiently tense. Those substances, such as air, tense strings, membranes, slips of wood, and thin plates in which a musical sound is most readily produced, are most easily thrown into consonant of vibrations.

Air can consonate only when confined within a circumscribed space. In the open air the human voice and every other sound is heard more feebly than in a room. The air confined within the box of a guitar, violin, piano, &c. consonates with the note struck on the strings, while the sound is not increased by the consonance of the external air. The strength of the consonance depends upon the size and form of the space in which the air is confined, and upon the properties of the walls which bound the space. It appears that the consonating sound of the inclosed air will be the stronger, the more perfectly the walls reflect the sounds which spread through the air. A space surrounded by solid walls produces the greatest consonance, while in a linen tent the sound is but little increased. The cause of the strengthening of sounds by the speaking-trumpet is well known.

The deductions drawn from the physical principles just referred to may be used in explaining the consonance of the voice in the chest. The air in the trachea and bronchia can consonate with the voice in as far as their walls resemble the walls of the larynx, mouth, and nasal cavities, in their power of reflecting sound. In the trachea, the walls of which consist of cartilage, the voice consonates almost as strongly as it sounds in the larynx. In the two branches also into which the trachea divides, the consonance must be nearly as perfect. On the entrance of the bronchia into the parenchyma of the lung they have no longer cartilaginous rings, but merely thin irregular plates of cartilage interspersed in the fibrous tissue. As the bronchia ramify, these plates become smaller, thinner, and less numerous, and at last disappear altogether, and the finest twigs of the bronchia consist merely of membranous canals. In the normal state of the parenchyma of the lung, the air in the bronchia consonates less strongly with the voice than that in the trachea, in proportion to the smaller number of cartilages they contain. The conditions which increase the consonance of the voice in the air contained within the branches of the bronchia that ramify in the parenchyma of the lung are either that the walls of the bronchia have become cartilaginous, or, if still membranous, very thick, or that the surrounding tissue of the lungs has become devoid of air;—in all these conditions the walls reflect the sound more strongly than the membranous walls of the normal bronchia;—and there must be no interruption of continuity between the air in the bronchia and

that in the larynx. If the air in a confined space be thrown into either original or imported autophonous vibrations, which give rise to sound, the surrounding walls not unfrequently partake of the same vibrations, and they do this the more readily the less stiff and hard they are.

[In order to illustrate the above explanation, Dr. Skoda instituted a series of experiments. The lungs themselves were hardly adapted for these experiments, as after death the bronchial tubes are frequently found filled with fluid. Other tissues were therefore chosen, whose powers of reflecting sound resembled those of the healthy and the hepatized lung.]

In this respect a portion of the small intestine represents pretty well the more membranous parts of the bronchia, and a portion of the heart and liver the hepatized lung. If a person speak through a stethoscope placed on one end of a moderately inflated small intestine, consonant vibrations of the voice, in the air within the intestine, may be heard by another person listening through a stethoscope placed on the other end of the intestine. If a layer of solid or fluid substance be interposed between the mouth of the stethoscope and the intestine, as, for example, a piece of liver or of intestine filled with water, the sound is heard very indistinctly, and not at all if the thickness of the interposed substance reaches half an inch.

If a passage be bored in the liver, so as not completely to pierce it through, and this be spoken into by means of a stethoscope accurately fitted into the entrance of it, the voice may be heard along the whole length of the passage, and for a considerable distance on each side, through a stethoscope placed over it, so strong, that it by far exceeds in intensity the voice proceeding from the mouth of the speaker, which is heard by the free air.

Edinburgh Med. and Surg. Journal, July, 1841, *p.* 89.

9.—ON COLCHICUM AUTUMNALE.

By Robert Lewins, Jun., M.D., &c.

[Few medicines, probably, have been prescribed by medical men in more variable doses than colchicum. While some have advised its exhibition in the largest doses, others have gone to the opposite extreme, and have been afraid of much smaller doses. Some of our most eminent men have prescribed the tincture of the seeds in drachm doses every three hours; others, as the late Dr. Duncan, in his dispensatory, have prescribed half ounce doses. Dr. Elliotson recommends half a drachm of the wine of the seeds three times a day, and in some cases he gives the same dose every eighth hour. Dr. Armstrong recommends one, and even two drachms, in twenty-four hours, and to be continued for some time. Dr. Barlow, of Bath, says, "It may be given in full doses so as to purge actively, or in divided doses frequently repeated. One drachm, one drachm and a half, or two drachms of the tincture of the seeds, should be administered at night, and repeated, if necessary, next morning. This quantity will generally purge briskly; but if it fail, another dose the following night will be pretty sure to succeed; at least so far as my experience goes, I have seldom found it necessary to exceed those doses."—*(Cyc. of Pract. Med.: Art.—Gout.)* Dr. Lewins protests against these doses of the medicine, affirming that 170 minims is the maximum dose, in twenty-four hours, which his father found it safe to administer.

It strikes us, however, that there must have been some difference in the mode of preparation, or in the seeds themselves, in order to account for

the great difference of opinion respecting the dose. Speaking of its administration Dr. Lewins says:]

From what I have observed I should conclude that there is most risk of danger from the violent action of any plant containing veratrine (and this is still more applicable to colchica) in debilitated constitutions, particularly in individuals whose digestive organs are weakened by intemperance. This opinion I have repeatedly seen verified, and I am convinced that great caution is requisite in administering colchicum, when disease exists in any abdominal organ, as, from a comparatively small quantity being given in that condition of the system, intractable vomiting and purging are produced, accompanied by alarming depression of the vital powers. The following assertion of Dr. Stokes, in his work on the diagnosis and treatment of diseases of the Chest, in speaking of the tartrate of antimony, applies with even greater propriety to the exhibition of colchicum. "The more sthenic the disease, and the greater the exemptions from complications, especially with abdominal disease, the more safe and efficacious will be the remedy;" and the necessity of attending to these directions cannot be too strongly impressed on the minds of those who administer colchicum, as they involve a point of the utmost practical importance the neglect of which cannot fail to be followed by the most dangerous consequences.

[With respect to its modus operandi, Dr. Lewins says:]

As surmised by physicians in all ages it is, I apprehend, by acting on the fluids, and especially on the blood, that we can really reach the *materies morbi* in arthritic and rheumatic affections. It were vain to advert to the erroneous opinions of the ancients, as to the peculiar morbid humours from which they conceived gout to arise; but the modern opinion of an excess of uric acid or of urea in the blood being, if not the proximate cause, at least mainly instrumental in constituting the disease, appears to be very probable, and to be confirmed by phenomena observed during its continuance, and by the effect of remedies which are efficacious in relieving it. In the present state of our knowledge, at least, we must, in considering the indications of cure, take into consideration all the elements obviously forming the constitutional and local affections present in gout, namely, vascular plethora, topical or general; gastric, hepatic, and intestinal derangement, as well as impaired and exhausted nervous energy; but a careful consideration of all the phenomena as they occur in gout, would, I humbly conceive, lead to the conclusion, that in this disease the fluids of the body are primarily affected; that, in short, gout is a disease of the blood, and that a vitiated condition of this vital fluid is the first link in the chain; and that the deranged state of the organic system of nerves and its consequences are merely secondary, and dependent on the former.

If this view of the pathology of gout be correct, we need be at no loss to account for the astonishing efficacy which colchicum possesses of relieving this disease, as we find by the experiments of my esteemed friend, Professor Chelius of Heidelberg, that the quantity of uric acid excreted by the kidneys is nearly doubled in the course of twelve days under the use of this remedy.

[A very intelligent patient of Dr. Lewins' had long been sensible that the state of his health had long been connected in some way, with the urinary discharge, and that he was always better when deposits took place in his urine, showing an increased separation of urea and other ingredients from the blood. This opinion is confirmed by Dr. Prout, in his admirable work "On the Nature and Treatment of Stomach and Urinary Diseases." He says:]

Whoever has attended much to urinary diseases must have remarked, that many individuals subject to derangements of the general health, seldom feel so well with respect to their health as when lithic acid deposits take place in the urine; and at page 227, he makes the following remarks:—We have said, that about the age of forty, the lithic acid may occasionally be considered as a sort of *materies morbi*, that is the cause of irritation in the constitution, whatever it may be, is transferred to the kidneys, which are induced to secrete an extraordinary quantity of lithic acid, and thus to meliorate the system in general. On a similar principle, the good effects long ascribed to certain remedies of the active diuretic kind, may probably be explained: such remedies appearing to possess the power, when given in favourable conditions of the system, of exciting the kidneys to separate large quantities of lithic acid; and in this way, by bringing about an artificial crisis, to produce great and immediate benefit. Thus Dr. Henry has mentioned cases in which *several ounces* of lithic acid were brought away in the course of a day or two by a remedy apparently composed of turpentine and laudanum chiefly.

[Dr. Lewins then goes on to say that,]

From the powerful physiological effects which we have seen colchicum capable of producing, we might reasonably expect that it will be a powerful theraputical agent in most diseases, where excessive excitement of the vascular and nervous system prevails; an opinion which has been entertained and insisted upon by Mr. Want, Mr. Haden, my father, and others. The latter published in 1837, cases of continued fever, in illustration of his views as to the efficacy of *Colchicum Autumnale;* and concludes that, by its judicious administration, we may break the force of fever more effectually than by any other known means.

From my own experience, I am inclined to think well of the efficacy of colchicum in fever, and, as an example of the manner in which it may be used advantageously in that disease, I may record the following case:

Mrs. L. aged 26, at present pregnant, had attended her mother lately when in typhus fever; she shivered on the 18th December, was affected subsequently with headache, pain in the back and limbs; at present, (December 22d) labouring under all the symptoms of fever of an aggravated form, severe headache, great prostration of strength, heat of surface, tongue covered with a thick white fur, pulse 136; has taken several aperient pills with little effect.

℞ Vini. Sem. Colchici.; Vin. Antimonii aa 3ii.; Spirit Etheris Nitrosi 3ii.; Aq. Fontis 3iv. M. Sig. Two teaspoonsful immediately, and one every three hours afterwards.

[This case eventually did well, and Dr. Lewins proceeds to say:]

I venture not to decide whether the benefit which in this case, and in many similar which have come under my observation, was derived from colchicum, is to be attributed merely to its action as a purgative and emetic; but I think it not unreasonable to suppose, that the effect which we have endeavoured to prove is produced by colchicum in the way of increasing the quantity of urea excreted by the kidneys, and of bile by the liver, may afford an explanation of the satisfactory terminations of such cases. Certain it is, that in a fatal case of pure uncomplicated typhus which I witnessed very lately, and where the patient died comatose, with symptoms similar to those caused by suppression of urine, although this fluid was secreted in considerable quantity, on accurate examination, it was found to be very deficient in urea.

In a paper published in the Lancet, vol. I. for 1837-38, p. 198, by Mr. Tait, the author mentions that he has derived equally good effects from this

remedy in scarlet fever. His cases were all of the purely inflammatory type, —blood-letting, leeches, and blisters being occasionally employed. He commenced with from twelve to fifteen drops of colchicum every three or four hours to robust farm-servants, and in children of from four to six years, he administered three to four drops, and diminished the dose, watching its effects, stopping whenever these were manifest. The pulse was diminished in frequency and force; the palpitation of the heart, which in young subjects, was often perceptible to the eye, subsided; the inflammation and pain of the throat were alleviated, and the patient often expressed himself much better. Vomiting was excited in a few cases, but as this seemed always to be followed by an improvement in the state of the tonsils, and generally abated after a rejection of a quantity of bile, it was never found necessary to interrupt the use of the medicine. The bowels were more or less purged, and the improvement was always so suddenly marked after a free discharge of dark bilious stools, that he always considered the patient out of danger when these appeared.

In addition to what I have said in regard to the probable manner in which colchicum acts beneficially in fever, I would suggest that, from what we have seen of its physiological action, the salutary influence may depend on its expelling from the circulating fluids, certain constituents by which they are contaminated or altered, in consequence of the impeded function of certain organs, in the early stage, and during its continuance, especially the kidneys and liver.

It is reasonable to infer, from the powerful influence which colchicum possesses in diminishing vascular and nervous excitement, and from its effects on the excretory organs of the body, and probably in the way of equalizing the circulation, that it may be useful in many local inflammations, both acute and chronic, so as to become a valuable auxiliary to the lancet; and in some instances entirely to supercede its use. So long ago as 1820, Mr. Haden published a work on this subject, in which he has related cases which prove, as we might have expected, the meadow-saffron to be a remedy possessed of great power in relieving such states of the system. He employed it principally in pulmonary and laryngial inflammation with decided advantage; and in such cases, he seems almost entirely to have trusted to its effects, to the entire exclusion of blood-letting. Although I am not so sanguine as to expect that, in acute forms of such diseases, we can depend upon colchicum alone; yet, from what I have seen, I speak with confidence when I state that, with the exception of depletion, there is no remedy capable of producing more beneficial results; and in many subacute inflammations, more particularly the evacuations of blood, need be very limited in extent, if promptly followed by the judicious administration of colchicum. In pleurisy, pneumonia, bronchitis, and croup, I have seen most decided benefit result from its employment.

In proof of its efficacy in the last named disease, I adduce the following case without comment.

November 24th, 1840, at 8 o'clock, A. M., A. G., aged three and a half years, labours under decided symptoms of croup, which have been coming on for the last forty-eight hours; pulse 180. Directed four leeches to be applied over the region of the trachea, and four grains of calomel, to be divided into three doses, one of which was ordered to be given every third hour, and each dose to be followed by four drops of colchicum wine.

Five o'clock, P. M. Leeches bled well. All the calomel taken and sixteen drops of the colchicum wine. Has perspired freely; bowels once moved; symptoms of the disease somewhat mitigated; had retched several times; pulse 160. *Continuetur Vinum Sem Colchici.*

Eleven, P. M. Symptoms of the disease greatly alleviated; skin

moist, but the perspiration less than at last visit; bowels had been freely moved; the evacuations resembled chopped spinage; pulse 116. *Intermit. medicamento omnia.*

November 25, A. M. Has had a tolerable night, and is to-day greatly relieved. Pulse has fallen to 100; very slight croupy sound perceptible during respiration. Expresses a desire for food. *Continuetur Vinum Colchici ut antea.*

Two, P. M. Continues to recover; several alvine evacuations have been passed since last report, which are less green in colour; pulse 96. *Intermit medic. omnia.* Gave particular directions to avoid exposure to cold, and to be kept on farinaceous diet.

Ten, P. M. Is free from complaint.

26th November, noon. Continues convalescent.

[It is remarkable that such a valuable medicine as colchicum autumnale should be almost unknown in Vienna, where Dr. Lewins resided for six months, and never knew the medicine once prescribed.]

Edinburgh Med. and Surgical Journal, July, 1841, *p.* 185—213.

3.—USE OF SECALE CORNUTUM.

By GEORGE FYFE, M.D., Newcastle-upon-Tyne.

To enter upon the consideration of the action of the ergot on the parturient uterus, or the very interesting and important question of its power to excite uterine action, is foreign to my present object; I shall therefore proceed at once to a statement of its efficacy as a medicine, and the diseases in which I deem it worthy of confidence. They are—polypus utri, attended with profuse hæmorrhage; menorrhagia, where there is no inordinate action of the heart or arteries, or morbid sensibility of the uterine system; in leucorrhœa, when independent of inflammatory action; in chlorosis with amenorrhœa; and in dismenorrhœa: in all of which cases I have had numerous opportunities of ascertaining its efficacy.

The first time I saw it exhibited as a medicine was by my lamented friend, the late Mr. Parr, of this town, so long ago as the year 1828. It was in a case of very large polypus of the uterus, accompanied with frequent and frightful attacks of hæmorrhage. He gave the ergot after all ordinary treatment had proved unavailing. The effect produced was not only the moderation of the hæmorrhage, but also the expulsion of large and numerous masses of the tumour, in many of which a distinct fibrous structure was perceptible. After its continued employment, the woman, who had arrived at the climacteric period, enjoyed comparative health and comfort, being freed from the repeated and alarming hæmorrhages, and experiencing no inconvenience from the small portion of the tumour which, when last examined, still remained. To this case I owe the idea that it might possibly be useful in others. How far this has been justified, the sequel must decide.

In menorrhagia, by which term I do not mean the mere increased menstrual discharge, I have found this medicine of the greatest value. In this disease, however, it is necessary to ponder well on the individual circumstances of each case, and to use the utmost caution in ascertaining the cause on which the disease depends; as where such precaution has been neglected, it has been my lot to see both the sufferings and the danger aggravated by the ergot. In this respect it does not differ from other active medicines. The slightest reflection will suffice to call to mind the very different states of the system in which this disease occurs. It may, for example, happen in the most phlogistic and phlethoric, or it may arise in a person of a diametrically opposite constitution. If given in the first state it is decidedly prejudicial,

unless preceded by such means as are calculated to remove alike the plethora and morbid sensibility; and even when this has been done, its operation requires to be carefully observed. In the last it acts most beneficially, as it at once raises the nervous energy of the uterus, and through this medium probably imparts increased tone to the relaxed and debilitated vessels through which the exhalation takes place. The following case affords a striking example of the utility of the medicine:—

In 1834 I was requested to visit a poor woman who had for many years led a most abandoned life, and who was apparently in a dying state from extreme exhaustion. Her age might be about thirty-four. On inquiry, I learnt that for the two preceding years she had suffered from repeated and severe hæmorrhages from the uterus, and that, on the present occasion, the discharge had continued for many days, until, when I saw her, though still abundant in quantity, it was not more coloured than the serum of healthy blood. In short, she seemed to be rapidly sinking. I ordered her immediately a full dose of the acetate of lead, with opium, to be repeated every four hours; and port wine or brandy, in sago, to be given frequently. Cold was applied, both externally and internally, by means of an injection of a strong solution of alum. For a brief space of time she appeared somewhat relieved; but in two or three days the hæmorrhage recurred with increased violence, the fluid also being more sanguineous. Having in other cases fancied that the ergot had been of use, I immediately gave her 3ss. of the powder, to be repeated in ℈i. doses every three or four hours. From the lapse of an hour after the first dose she experienced manifest relief; and, on seeing her in the evening, I directed the third dose not to be given till the sixth hour, unless any recurrence of the discharge should render it necessary. Next day she continued better; and the medicine was directed to be taken only night and morning. From this visit she went on gradually improving, and for two years after, when I had occasion to prescribe for her, she had experienced no return of hæmorrhage. She appeared quite well in health, but completely blanched in colour. To this I might add several other cases, occurring in persons of asthenic constitution, in which similar good effects were derived from the ergot, but consider that it would only be a needless occupation of your columns, and your reader's time. It may be enough to say, that seven years of subsequent practice have confirmed my reliance on the ergot in such cases. Even where an opposite diathesis prevails it has been employed advantageously, combined with conium and hyoscyamus. In such persons it is adviseable to premise a moderate abstraction of blood from the system, and to keep up depletory action by means of saline cathartics. In these cases, however, the infusion of roses with sulphuric acid and digitalis, or alum, seem more appropriate.

In leucorrhœa it has been highly useful. In this disease, as in menorrhagia, it is necessary to ascertain the state of the system, more particularly the uterine disorder on which it depends; as where any degree of inflammation is present it will be injurious. In several distressing cases of this disease, where the strongest astringent injections had been employed without any effect, except exciting inflammatory action which did not previously exist, I have found the ergot, aided by injections of simple warm water, or the decoction of poppy capsules, perfectly successful. I may observe *en passant* that from considerable opportunities of observation, it is my firm belief that in a vast proportion of cases of leucorrhœa stimulant and astringent injections are not only uncalled for, but absolutely contraindicated; at the same time, it must be acknowledged that they are occasionally of great use.

In chlorosis and amenorrhœa I have frequently experienced the good effects of the ergot, after aloes, iron, valerian, cantharides, &c. had all been employed without the slightest advantage. In these cases, when extreme

nervous susceptibility exists, it may be most advantageously combined with the valerian, and where the alvine system is torpid, with aloes. When aloes are employed, I attach the preference to the Barbadoes: in doing so I may be somewhat empirical, as it is difficult to account for the superiority of the Barbadoes over the socotrine, as an emenagogue, unless it be ascribed to the larger quantity of bitter principle contained in the former.

In dysmenorrhœa the ergot has been most useful. In one case, accompanied with what may without exaggeration be termed torture at each period, it appeared almost magical in its operation. It is right to state that it was given in combination with the valerian; which medicine, however, had been previously given, but without any apparent benefit. To enter into the detail of individual cases is not only tedious, but would also occupy too much of your valuable columns. I shall therefore endeavour, with the utmost possible brevity, to explain the apparent paradox of a medicine being of use in cases at first sight so pathologically opposite.

It is well known that the same cause operating on different constitutions will be followed by effects proportionately variable. This is a fact which does not admit of refutation, whether it be applied to man morally or physically. So then it is with regard to the uterine system, as every man of moderate experience will admit that the same morbid condition will, according to peculiarity of constitution, produce a very dissimilar train of symptoms. Thus, whilst a congested state of the uterine vessels will in one person lead to menorrhagia, the same cause operating on a different constitution will be attended with leucorrhœa. Again, when the nervous system of the uterus is at fault, we in one person have chorea, in another simple hysteria, in others cardiac and pulmonic symptoms, &c. This is especially true in regard to menorrhagia and leucorrhœa. These diseases may arise alike in the sthenic and asthenic diatheses, which must of course render a corresponding modification of our remedial measures necessary. Without using much discrimination, we aggravate rather than alleviate the suffering inseparable from disease, and enrol ourselves under the banner of empiricism.

I have merely to add, that I consider myself fully justified in recommending the ergot as an excellent emenagogue and anti-hemorrhagic agent. Should this recommendation be followed by beneficial results in the hands of other professional men, I will regard myself as amply rewarded for the trouble of putting together the foregoing remarks, the correctness of which can only be proved by trials more extensive than private practice; besides which, every man is liable to view with *partiality* any plan of treatment, which, without authority, he adopts and finds successful.

The doses in which I have prescribed it have varied from gr. x. to ℈j. of the powder, ℥ss. to ℥j. of the concentrated tincture. A good formula for decoction is given in Foot's Medical Almanack, although it appears to me that the quantity of ergot is rather small.

Med. Gazette, June 18, 1841, *p.* 497.

[The foregoing observations on this extraordinary medicine, are well worthy of the attention of medical men. Our own experience almost entirely accords with that of Dr. Fyfe. The ergot seems to be an extraordinary stimulant to the muscular tissue of the womb; indeed we have frequently seen this stimulation extended to nearly the whole muscular system; and it seems to us that the perniciousness of this drug on the child during labour, consists in the uninterrupted contraction of the muscular fibres of the uterus, and the consequent interruption to the communication between the vessels of the mother going to supply the placenta, and the vessels of the child going to supply the same part.

To the same kind of action on the uterus may be attributed its good

effects in other diseases mentioned by Dr. Fyfe, especially in menorrhagia dependent on a want of action in the uterine system, and in leucorrhœa, dependent likewise on debility. In menorrhagia, as well as in the continued discharge which often follows abortion, we have found this drug of inestimable value.]

4.—PROCESS FOR PREPARING A PURE AND CONCENTRATED WATERY SOLUTION OF OPIUM, FREE FROM NARCOTINE.

By Messrs. T. and H. Smith, Chemists, Edinburgh.

[Although many eminent practitioners entertain a poor opinion of the artificial salts of the active principles of opium, there is no doubt that their discovery is a most useful one. "Nevertheless," as the Messrs. Smith say, "the natural combination of morphia as it exists in crude opium, does, and in all probability will continue to be preferred and used by a great proportion of medical men." And with this view these able chemists give us the following formula:]

Macerate for twenty-four hours any quantity of opium in as much water as will be sufficient to cover it completely, and press the solution through a cloth; digest again for the same time in a like quantity of water; again press out, and repeat the process exactly in the same manner, till the opium has been exposed to the action of seven waters, when it will be sufficiently exhausted. The waters are then to be evaporated to the consistence of a soft extract, the concentration being finished over the water bath, to prevent the active principle being injured by too great a heat. Take up the soluble parts with repeated portions of water, filter, and again evaporate with care to a syrupy consistence. Expose the syrupy extract to the influence of ether, for the purpose of removing the narcotine; after the ether has become saturated, pour it off, and add fresh portions, till on evaporating a small quantity, no solid residuum is obtained. The extract now freed from narcotine is to be heated in a water bath to drive off the ether completely, and digested in alcohol till nothing soluble in that menstruum is left. A large quantity of inert matter will remain, which we have proved experimentally to be quite free from morphia. The alcohol must now be distilled off, and the residuum of the distillation dissolved as completely as possible in cold distilled water; a farther portion of inactive pulverulent extractive matter will remain undissolved. The solution after filtration is now to be set aside for two or three weeks, when a considerable quantity of solid matter will be found settled to the bottom, from which the liquor must be separated by filtration, and evaporated till about 12 oz. are left for every four oz. of opium used; filter, add 2¾ oz. of alcohol, and enough of distilled water to make 16 ounces. The solution thus obtained, is of a much lighter colour than laudanum, and much more fluid; it is also quite free from any thing nauseous in taste or smell, the taste being only slightly and not unpleasantly bitter, even in the undiluted state. It is also miscible without muddiness with watery and spiritous liquids; but of course will be decomposed by all substances which act on the morphia salts, as it contains, if rightly prepared, the full quantity of that principle which an equivalent portion of crude opium would give. This we have proved by precipitating the morphia from the solution, and forming a muriate, when we obtained from a quantity equivalent to 4 oz. of opium, between 3 and 4 drachms of the salt, which was nearly white at the first crystallization, having only a slight fawn tinge, and was perfectly free from narcotine. One of us was as completely narcotized with eight drops of the solution, as he would have been with about thirty drops of laudanum.

Although the solution is so much freed from principles subject to decomposition, it will be found necessary to add the proportion of alcohol recommended, as it will not keep unless this addition be made; its surface, if it be allowed to stand undisturbed for some weeks, beginning to exhibit some appearance of mould. The quantity of spirit added, however, forms so small a proportion, that the preparation may with perfect propriety be considered a watery solution of opium. An ordinary dose does not contain more than about two drops of alcohol, a quantity so minute, that it is unnecessary to take it into account. We have also prepared a solution much more concentrated, by evaporating the pure liquid so far, that every 24 oz. shall contain the soluble narcotic principle of 16 oz. of opium; its dose is from three to five drops; its consistence is not much greater than that of laudanum, and it is transparent.

Lond. and Edin. Monthly Journal of Med. Science, Aug. 1841, *p.* 572.

5.—FURTHER OBSERVATIONS ON THE OXIDE OF SILVER.

By C. H. B. Lane, Esq., M.R.C.S.

[In article 75 of our second number, will be found a digest of Mr. Lane's interesting communication on this subject to the Medico Chirurgical Review for July, 1840. We need not, therefore, again enter minutely into his theory and practice with respect to this article. It will be sufficient to remind the reader that Mr. Lane's theory is that the *nitrate* of silver on being taken into the stomach, is converted into a chloride by the free hydrochloric acid of the gastric juice; this is taken up into the circulation, and, when conveyed to the cutaneous surface, is converted into an *oxide* by the action of light and the strong affinity of albumen. This oxide cannot, apparently, permeate the capillaries, but becomes indelibly fixed, occasioning extreme disfigurement: but if the chemical process just described be *anticipated*, and the silver be primarily introduced into the stomach as an *oxide* instead of a *nitrate*, its transmission to the skin would probably be prevented: for since the cutaneous capillaries are not permeable to its egress when once deposited in the skin, as is the bile in jaundice, neither should we expect them to be permeable for its ingress. Mr. Lane, moreover, considers silver to be primarily a sedative, acting directly on the nervous fibre; and especially influencing the nerves of *organic* life which control the capillary circulation; while the action of lead is on the nerves of *animal* life—those of sensation and voluntary motion. Silver, moreover, acts on the uterine system; and especially in diseases where there is undue secretion and great irritation. Mr. Lane has now administered the oxide of silver for two months, at intervals, without the slightest tendency to discolouration, even though in one case repeated salivation was caused.

Dr. Golding Bird has given the same remedy for four months, without any bad effects. Mr. Lane enumerates several cases in which this remedy was efficacious; such as cardialgia and pyrosis, in which he gave half grain doses twice a-day—intestinal spasm, followed by nausea and pyrosis—irritable state of the stomach, accompanied with gnawing and constant pain, and nausea, &c. In all these cases about a grain daily was administered, and were soon relieved; so soon, indeed, that we do not see any particular advantage in the oxide over the nitrate, as the dreaded discolouration never makes its appearance except under a tolerably long course of this powerful remedy. In cases where organic mischief exists, it is of no use. Dr. Bird found that in cases characterised by a glairy discharge

from the stomach, which he considers analogous to the follicular gastric dyspepsia of Dr. Todd, it was of little use. Several cases of uterine hæmorrhage, both in the unimpregnated and in the impregnated state, are given, in which success attended it. But in all or most of the cases related by Dr. Lane, we might have administered the nitrate with equal safety and efficacy. If he had given us cases of long duration, in which the long continued use of the nitrate would have been inadmissible, we should have seen some reason to have changed our old favourite remedy for the new one. However, there is no doubt that it may prove a valuable addition to our stock of remedies, and we therefore beg to recommend the careful perusal of Mr. Lane's papers to the profession.]

London Lancet, July 10, 1841, p. 537—542.

[On the use of the *chloride of silver*, the following observations are made by Dr. Perry, resident Physician of the Philadelphia Hospital.]

It must be universally acknowledged, that the nitrate of silver administered by the mouth can never act as nitrate of silver on the system, since any dose which could be ventured upon must, immediately on entering the stomach, be converted into the chloride of silver, from the chloride of sodium of our food, or the hydrochloric acid of the gastric juice.

The chloride must then, a priori, be considered as efficacious equally with the nitrate, while it will be found less uncertain in its effects, more convenient for exhibition, less liable to decomposition, and free from its nauseous taste. It may be given, too, in any dose thought necessary to produce the alterative and tonic action of silver without danger.

In less doses than thirty grains, no irritating or manifest effects result. Thirty grains given at once will generally produce emesis. The best form of exhibition is in pill. To children it can be given as a powder suspended in syrup.

Twelve grains administered daily for three months have produced no unpleasant symptoms, and none of my numerous and long-continued courses of the remedy have been followed by discolourations of the skin.

In epilepsy, three grains, given four or five times daily, produced effects similar to those of nitrate of silver, but more marked.

In chronic dysentery, half a grain to three grains thrice daily, produces immediate diminution in the number of stools, and tormina, with amelioration in the character of the stools and other symptoms.

I have not ventured to use it freely in acute dysentery, but in a few cases in which it had been administered, its effects seemed equally beneficial.

In chronic and colliquative diarrhœa, benefit was derived from its use in the same doses, but not so markedly, uniformly, or permanently.

The catamenia suspended for years, have, without any adjuvant treatment, returned after its free exhibition for two or three weeks.

One case of secondary syphilis (the only one in which it has been tried) improved rapidly under it.

American Medical Library and Intelligencer, February, 1841.—*British and Foreign Medical Review, October*, 1841, *p.* 567.

6.—POISONING BY LAUDANUM TREATED BY ELECTRICITY.

By C. H. B. Williams, M.D., Physician to University College Hospital, &c., &c.

[The following case, illustrative of the effects of electricity in rousing a patient from the dangerous and too frequently fatal sleep produced by a large dose of laudanum, is that of a young woman aged 26, who swallowed an ounce and a half of this liquid. Copious vomiting had, how-

ever, been effected by a scruple of the sulphate of zinc, before the following treatment was adopted. The case is related as follows:]

On admission, she was in a state of complete coma; the pupils were contracted; the face pale; the lips livid; the pulse weak, and the respirations rare. The stomach-pump was immediately used; warm water first, and afterwards strong coffee, being injected and again drawn out, and electric shocks were passed across the shoulder by the electro-magnetic apparatus, with the effect of instantly restoring the patient to consciousness. She was then made to walk about the ward supported by two of the nurses, and the electric shocks were renewed at intervals as she became drowsy.

At two, P.M., Dr. Williams saw her, and ordered six grains of calomel immediately, and two minims of croton oil one hour afterwards; the oil to be repeated every hour until the bowels were moved. Her bowels were freely opened about six P.M., after she had taken three doses of the oil. From that time the drowsiness ceased. She remained perfectly well, and was discharged on the 18th.

In lecturing on this case, Dr. Williams remarked, that the first indication to be fulfilled in cases of poisoning by opium or its preparations, is the immediate evacuation of the poison from the stomach and intestines. The emptying of the stomach is more surely effected by the use of the stomach-pump than by any other means; and in proportion as the sympathies concerned in vomiting are more paralysed by the long operation of the poison, there would be the more need for the use of this mechanical substitute for the act of vomiting, inasmuch as the stomach would be less affected by emetics. In washing out the stomach by the stomach-pump, it is well to use infusion of coffee or green tea, which in a slight degree counteract the stupefying influence of the opium. When the stomach-pump is not at hand, then emetics, similar to that employed in the case under consideration, are the most effective. The stomach having been emptied, the medical attendant should next endeavour to evacuate the intestines; and in doing this he should use purgatives best suited to counteract the constrictive influence which opium exerts over the excernent organs. For this purpose, calomel is found most beneficial, as it not only acts upon the excretions, but removes the tendency to local congestions or inflammations, which very frequently follow poisoning by the agent under consideration. Such a result had ensued in one case, lately, in the hospital, in which, after the prolonged operation of a large dose of opium, a low kind of inflammation of the lungs ensued, which ended in extensive gangrene, and terminated fatally. The poison being thus evacuated, and as far as possible counteracted, the still sinking excitability of the nervous system is to be roused as much as possible. Opium kills by producing asphyxia, which is consequent upon the general paralysis of both the voluntary and involuntary nerves which are engaged in the motions of respiration. Efforts to excite the muscles of respiration may be directed either to the voluntary or involuntary nerves which act in respiration. To arouse the patient to consciousness, and to the voluntary exertions connected with it, the patient may be kept walking about, or riding over a rough road; or some irritating agent, such as nettles, or the dolichos pruriens, may be applied to the skin. The involuntary motion of respiration dependent on reflex action, are aroused by the cold affusion, stimulating vapours to the nostrils, or by electricity, which acts also directly on the muscles, and restores consciousness. The latter agent was the most powerful, because it excited all the functions concerned in the respiratory movements, involuntary and voluntary, and its efficacy had been proved in the present case. He thought that an objection existed against the use of forced exertions, in cases of this description, which was not sufficiently thought of. By such general exercise

the respiration was doubtlessly kept up; but the need of respiration was increased likewise; the blood became more venous, and the demand on the weakened organs of respiration became greater. The object of keeping the patient awake was to make him conscious of that feeling of want of breath which prompts voluntary respiratory efforts, so that by these efforts the blood might be oxygenated, until the involuntary movements should be restored. Electricity had the advantage of exciting the motions wanted, without exhausting the strength and overtaxing the voluntary movements of respiration, as forced bodily exertion must do.

If the poison be much in quantity, or long taken, the nerves and muscles are insensible to any of the above-mentioned stimuli. We must then do for the lungs what, by the stomach-pump, we do for the stomach; move them mechanically; use artificial respiration: and this is best done with Read's syringe and oxygen gas, if they are at hand. In such extreme cases, there is so much congestion in the right side of the heart, that the pulse fails, and even artificial respiration is of no avail. Here venesection will sometimes relieve the congestion, and restore the motion.

With artificial respiration should be joined heat to the limbs, friction, &c.; and by these means life may be sometimes sustained until the action of the poison ceases, and the natural motions are restored. This was first shown by Sir B. Brodie's experiments with the woorara poison.

London Lancet, July 31, 1841, *p.* 661.

7.—ON THE PROPAGATION OF THE VARIOLÆ VACCINÆ BY CRUSTS FROM THE COW.

By John Baron, M.D., F.R.S., Cheltenham.

[In Article 22 of our third number we published the fact of crusts taken from the dried pustules after vaccination being a good way of preserving the lymph, and one which might be very useful when it was necessary to send it into warm climates. The propagation of the vaccine disease from the crusts has been attempted in India and other countries, but not with much success in England. The crusts, however, may be found to contain the virus in a state of purity, as may be seen by the following interesting case of Dr. Baron.]

On the 7th of this month my friend Mr. Coles informed me that he heard of the existence of the variolæ vaccinæ at a farm a short distance from this place. The following morning we visited the cows. Only one had been affected by the complaint. The teats were covered with the remains of the disease, but not a single vesicle existed from which lymph could be taken. Under these circumstances, I recommended Mr. Coles to collect a few crusts. This was done, and on the tenth of this month he triturated two of them with pure cold water, having previously separated the margin and outer layers of each crust, and with the fluid thus obtained he inoculated six children, with three punctures on each arm. Out of these thirty-six punctures, only one took effect. The vesicle formed in this instance was rather small, but very perfect in its form and character; so much so, that no hesitation was felt as to the propriety of attempting to propagate the disease from it. Mr. Coles accordingly used it on *two* children on the 17th, and *one* on the 19th, all of which succeeded. From one of these patients, vaccinated on the 17th, he vaccinated four on the 24th; and from that vaccinated on the 19th, he charged about forty points on the 26th. All the vesicles were fine and perfect, with the exception of those on one of the children vaccinated on the 17th. The deviation in this instance clearly arose from the co-existence of

an affection of the skin, which manifested itself the day after the lymph was inserted, and so completely altered the character of the vesicle as to render it unfit for use. I am the more induced to dwell for a moment on this latter event, as I have reason to know that the evils arising from inattention to deviations of this kind, are not sufficiently regarded by gentlemen employed by the Guardians in vaccinating the poor. I myself, at least, have had communications from two Unions on this very point. It cannot, therefore, be too strongly stated, that persons vaccinated under such circumstances, ought not to be considered as secure from subsequent attacks of small-pox.

Medical Gazette, Sept. 3, 1841, p. 915.

8.—TREATMENT OF SORE THROAT, OR ANGINA, BY ALUM.

By M. VELPEAU, Paris.

[It was the celebrated and practical Bretonneau, while in the hospital of Tours, who first instructed his illustrious pupil, Velpeau, in many really practical views, and amongst the rest in the use of alum, &c. in inflammatory sore throat. M. Bretonneau first tried his remedies successfully in croup. Velpeau tried the nitrate of silver in 1819—in 1828 and 1829 he tried alum with success, and published a paper on the subject in the Gazette Medicale of 1830. In that paper he hints that the use of alum may be much extended, and cites the experience of M. de Laennec, of Nantes, who assures us that by blowing powdered alum on the inflamed amygdalæ, we not only cure the disease, but prevent a relapse. Cases of angina are frequently so little influenced by antiphlogistic remedies, that we are warranted in seeking success from other measures. Moreover, many would be at a loss when to apply Bretonneau's treatment to croup, or to angina with effusion of false membrane; and this because it is often difficult to distinguish one from the other. This difficulty is removed when we can show that the same treatment is applicable to the one as well as to the other.]

Although, perhaps, it may be true that the experiments which I have recently made are not sufficiently numerous to put the question completely at rest, yet they seem to me so encouraging, that medical men should at least repeat them. The result of the treatment which I have employed was always the same. In all the cases, the inflammation had appeared suddenly, and was attended by fever; most of the patients commenced with the alum on the second day: the throat was then very red and painful; the tongue foul, &c.; some had arrived at the fifth, sixth, or eighth day, with high fever, redness and swelling of the face, considerable tumefaction of the amygdalæ, great difficulty of swallowing and breathing, thirst, &c.; in two cases suppuration appeared to be imminent. The treatment, as I have said, was the same in all cases, and consisted in the use of alum, either as a gargle or in powder. The tip of the finger, moistened, is to be covered with powdered alum, and then rubbed all over the inflamed parts, while the tongue is depressed with the handle of a spoon. The powder may be applied with a small brush, or a bit of sponge, &c., on the end of a little stick, or it may be blown into the throat with a tube; but the use of the finger is preferable, for with it the surgeon can readily reach every point of the inflamed surface, behind the velum pendulum, and even as far back as the entrance to the larynx; besides, an intelligent patient can apply the powder with his own finger, as I have often witnessed.

When a certain quantity of alum has been applied with the finger, the latter may be withdrawn, and a fresh application made, until the whole of the

inflamed surface be covered with it, and, as a preliminary measure, the patient should frequently gargle his throat, to remove any mucous, &c. The use of the powder must be repeated twice or thrice a-day, at equal intervals, and in the mean time the patient should frequently gargle his throat with a solution of one to four drachms of alum in four ounces of barley water.

In employing the alum after the manner which I have just described, we generally produce some nausea, cough, &c.; but these soon disappear, and the acrid taste of the medicine is also soon lost. The pain and febrile symptoms almost always diminish in an evident manner, after the first or second application, and the patient improves so rapidly, that on the third or fourth day, (and in some cases on the following day) he feels himself perfectly well. The most remarkable effect produced by this remedy is the rapid disappearance of the febrile symptoms, and the change in the tone of the voice; one would think that some deleterious principle had been suddenly neutralized, and the disorder reduced to a simple mechanical obstacle, from the increased volume of the affected parts.

In cases where the inflammation is mild and the throat merely red without being swollen, the alum gargle will be sufficient; even in more severe cases the gargle will often succeed, but it is then more prudent to have recourse to the powder at once. Among the advantages of this mode of treatment, gentlemen, one of the greatest perhaps is, that it seems to remove the well-known tendency of angina to recur; besides, the patient is not forced to lie in bed, and you may allow him some food without any inconvenience, as soon as he is able to swallow.

[Several very excellent cases are given to exemplify the preceding practice.]

Provincial Med. and Surgical Journal, May 22, 1841, *p.* 145.

9.—SULPHATE OF ALUMINA AND POTASS IN HÆMORRHAGE.

By Martin Hamilton Lynch, M.D., lately Lecturer on the Practice of Physic in the Newcastle School of Medicine.

[Dr. N. Grattan, some short time ago, recommended alum in fifteen-grain doses, combined with dilute sulphuric acid, as a remedy in profuse menorrhagia and in the hæmorrhage of abortion. Dr. Lynch relates the following case, which beautifully exemplifies the good effects of large doses of this drug in alarming hæmorrhage:]

In January 1837, a gentleman aged 37 years, who had been for five months affected with hæmaturia, came under my care. The usual treatment was pursued; he was bled and repeatedly cupped, and uva ursæ, turpentine, and pariera brava were successively but in vain administered during several months. In consultation, on the . . . . . 3 grains of the acetate of lead were ordered to be taken in a draught every eight hours, with 3 drops of laudanum and a drachm of vinegar. This treatment was persevered in for some days, when the occurrence of the ordinary symptoms produced by the deleterious action of lead, compelled the discontinuance of the draughts. The patient was reduced to an extreme degree of debility by the long continuance of the hæmaturia, and his exhaustion and sufferings were much increased by the constipation, hiccup, colic, and tremors, produced by the lead. For several days he was so despondent that he refused to submit to treatment, but ultimately consented to take a laxative electuary and the following draught:

℞ Sulphatis aluminæ et potassæ, gr. xv.; Acidi sulphurici diluti, gtt. xxx.; Sulphatis magnesiæ, ʒj.; Infus. rosæ, ℥j. Fiat haustus, ter quotidie sumendus.

The quantity of alum was gradually increased from 15 to 45 grains, and the draught containing this latter quantity was continued for six days; under this treatment the patient's appetite increased, his general health improved rapidly, and the urine became clear. A relapse, however, took place; the urine again became bloody, but was quickly restored to a healthy state during the use of the draught, containing 45 grains of alum.

During the use of the draughts a curious change was observed to take place in the urine, which became almost black; as this alteration of colour had never before occurred, I am inclined to infer that it was produced by the absorption into the circulation and ilimination by the kidneys of the free sulphuric acid, and of that contained in the supersalt and the combination of this acid with the colouring matter of the blood diffused through the urine, for although (through the previous progress of the case) the urine had always decidedly reddened litmus paper, this dark colour had not been produced.

Encouraged by the apparent energy of the remedy in this case, and the absence of any unpleasant symptoms from its employment, I have several times prescribed it in the hæmorrhages in doses of 45 or 50 grains, combined with 30 or 40 drops of dilute sulphuric acid, and a drachm or ʒiss. of sulphate of magnesia and ℥iss. or ℥ij. of water.

These draughts themselves have been almost always sufficient to produce a laxative effect on the bowels, but when this has not been the result of the exhibition, I order some mild purgative occasionally during their administration. Cullen, in his Materia Medica, observes that half a drachm of alum produces vomiting but I have never seen this effect follow doses of 50 grains given three or four times daily, as in the preceding draughts. Perhaps, however, alum *alone* may excite vomiting, for it is not impossible that the sulphate of magnesia may prevent vomiting in the same way that Gregory's powder, colocynth pill, or compound rhubarb pill, or any mild purgative repeatedly administered in moderate doses, prevent or diminish sea-sickness, viz. by maintaining the natural peristaltic action of the intestines.

Alum is one of the safest of our astringents, but in cases of alarming hæmorrhage, acetate of lead in doses of 2 or 3 grains, repeated every six hours, is usually prescribed, being considered a more efficient remedy. The acetate thus given is really a more powerful remedial agent than alum administered in the ordinary doses, the maximum of which never exceeds 20 grains; but in the large doses I am in the habit of ordering it, alum is little, if at all, inferior in energy to the acetate of lead, and has this advantage, moreover, that it may be taken with perfect safety by individuals who would be placed in the greatest jeopardy by the free exhibition of lead: for I cannot divest my mind of a suspicion that acetate of lead in 3 grain doses is more frequently productive of disagreeable consequences than is generally supposed. I am aware that such instances have not found their way into the journals, but that they not unfrequently occur I am disposed to infer, from having met with two such cases in my own practice.

Let us imagine a case of formidable hæmorrhage, which has, perhaps, recurred frequently for weeks or months, which is produced by, or complicated with organic disease, and is attended with great general debility and long existing anæmia. If alum be equally efficacious with the acetate of lead, would it not be a much more appropriate remedy in such cases.

Formerly alum was given internally in gonorrhœa; the great benefit derived from its use in a case of hæmaturia treated by Mr. Guthrie in the West-

minster Hospital, in mine, and in one which my friend Sir John Fife, at my suggestion, treated with alum in large doses, lead me to conclude that this substance is deserving of trial in gonorrhœa also, in which it may prove a convenient remedy when fever, inflammation, or irritability of the stomach forbid the employment of the turpentines.

The possibility of gastric inflammation being produced, suggests caution in raising the dose beyond 50 or 60 grains, repeated three or four times daily.

Provincial Medical and Surgical Journal, May 29, 1841, *p.* 162.

10.—OXIDE OF ZINC IN CERTAIN FORMS OF CONVULSIONS

By Dr. Hennis Green, Lecturer on Diseases of Children at the Hunterian School of Medicine.

[In the valuable "Contributions to the Pathology of Children," published by Dr. Hennis Green, in a series of papers in the Provincial Medical and Surgical Journal, the following case is related, which shows the good effects of the above remedy in certain forms of convulsions, which are closely allied to epilepsy:]

A. Milhois, fifteen months of age, is apparently of a good constitution, and born of healthy parents, who never laboured under any disease of the nervous system; has only eight incisor teeth; was weaned at the age of thirteen months, and soon after was attacked by fits of an epileptic character; at first these did not recur very often, but they gradually became more frequent, and attacked the infant several times a-day. The parents thought that they were generally excited by the administration of food. The child was admitted into the hospital on the first of July, and placed on strict diet; some warm baths were administered. The epileptic fits were not long in showing themselves. Without any premonitory symptoms, the child was suddenly seized with agitation of the limbs and sharp cries, the expression of the face then became altered, the eye was fixed, the face of a purplish colour, the limbs rigid, the jaws clenched, and the mouth covered with foam; but this latter symptom was by no means constant. The respiration was troubled during the fit, being panting and very quick; the pulse, also, was extremely accelerated. The access usually lasted from five to ten minutes, when the child fell into a state of somnolence, from which it did not recover for half an hour. During the intervals of the fits, the pulse was natural, and all the functions were apparently undisturbed; the evacuations were carefully examined, but no trace of worms could be discovered in them.

July 3. The oxide of zinc was administered to-day, in two doses, of two grains each, morning and evening; the use of the warm bath was continued.

4 and 5. The epileptic fits recur with the same force and frequency; the ingestion of food does not seem to exercise any influence on them; for example, on the 6th, visitors' day the child ate much more than usual, but had no attack on that day. The dose of the oxide of zinc is increased every day by two grains.

8. Had a severe fit; vomited two or three times during the day; the dose of zinc is now carried to twelve grains in the day. During the next few days the vomiting ceased, but the child was seized with diarrhœa and cough. The baths were omitted.

12. There was no fit to-day, nor yesterday; still it was thought prudent to continue the oxide of zinc up to the 22nd, when the little patient was taking twenty-four grains daily. The medicine was now discontinued, but the fit returned on the 23rd; it was therefore resumed on the 25th,

and continued to the 30th, when the child was dismissed from the hospital, as no relapse had taken place. The parents were requested to bring the child back immediately on the appearance of a fit, but nothing has been heard of them since.

Remarks.—The efficacy of the oxide of zinc in this case cannot be called in question. The patient had laboured under attacks of an epileptic nature for two months, when it was first administered; for a few days no effect was apparently produced, but the attacks became afterwards milder and less frequent, and ceased completely within twelve days. The use of the remedy was now discontinued; the fits return; it is again administered, and the epileptic convulsions disappear. M. Guersant, who frequently employs the oxide of zinc in the convulsive affections of children, has remarked that it often occasions diarrhœa. The same effect was produced in the present case, but the diarrhœa was not troublesome; the oxide of zinc, therefore, acts not only as an antispasmodic, but as a revulsive; and if it be advisable to prevent its action on the bowels, this may be readily obtained by combining it with the extract of cicuta, hyosciamus, or opium.

Provincial Medical and Surgical Journal, July 10, 1841, *p.* 285.

11.—TREATMENT OF TAPE WORM.

By Dr. Wawruch, Professor of the Practice of Medicine in the University of Vienna.

[In 206 cases of Tape Worm, Dr. Wawruch found the following treatment the most efficacious:]

As a preparatory step, all the patients took a laxative decoction with sal ammoniac, for three, four, or five days, and ate nothing but weak soup thrice a-day. In 8 cases the worm was expelled by the mere effect of continued abstinence. The anthelmintic remedies employed were, castor oil, and the powdered root of the male fern. From one to two table spoonsful of the oil were given as a dose, alternately with one or two drachms of the powder twice or thrice a-day.

Enemata of oil and milk were frequently thrown up, to attract the worm towards the large intestine, and it was observed, that the effect of the drastic was always most sure when given a certain time after the last dose of fern, than at once. The drastic purge employed was composed of equal parts of calomel, gamboge, and sugar, two to eight grains of each for a dose. In many cases a single dose brought the worm away, but in others three to six doses were required. The period at which the worm was discharged was very various. In eight cases, as has been already remarked, it was expelled by the mere effect of hunger; in thirteen cases, by the anthelmintics alone, in eleven by the first, in fourteen by the second, and in fifteen cases by the third drastic purge; and generally speaking, it was expelled within one to twelve hours after the last drastic. In a few cases, two, three, four, (and in one) twelve days elapsed after the last purge, before the worm was expelled. The tænia is not exclusively a *solitary* worm, for in nine cases there were two worms, of different ages and developement; in two cases three worms. In one very remarkable case, four worms were discharged, and this patient still suffers from the complaint. Of the 206 cases only twenty-six had a relapse; twenty of these came twice, five thrice, and one of them four times to the hospital. Some came in two to four months; two in nine months; two in a year. Generally speaking, the patient may expect to be entirely free from his disease, if he pass ten or twelve weeks without discharging any remnants of the worm.

Provincial Medical and Surgical Journal, July 10, 1841, *p.* 287.

12.—ON HIPPURIC ACID.*

By Alexander Ure, M.D., A.M.

In a paper communicated by me to the Medico-Chirurgical Society in the month of January last, it was pointed out for the first time, that when a certain portion of benzoic acid, or of a soluble benzoic salt, is introduced into the human stomach, a remarkable change takes place in its passage through the kidney. The urine voided in the course of a couple of hours after its ingestion, amounting usually to five or six ounces, will be found upon adding a twelfth part of muriatic acid, to yield by-and-bye a copious precipitate of beautiful rose-pink acicular crystals. These, when examined by the microscope, exhibit the form of a four-sided prism, terminated by a dihedral summit. Now this is precisely the crystalline character of an acid peculiar to the urine of the horse, cow, and other graminivorous animals, and to which, for that reason, Liebeg has assigned the name of *hippuric*.

By this singular interchange of elements, capable of being effected only by the aid of vital chemistry, we have an organic product, uric acid, containing eight atoms of azote and ten of carbon, replaced by one, hippuric acid, containing no less than eighteen of carbon, and only two of azote! In pursuing the above investigations a step further, it was ascertained that no trace whatever of uric acid or any of its salts could be discovered in the urine in question. In point of fact it had been wholly superseded by the other acid.

The important circumstance connected with this research, as bearing upon medical practice, is, that the salts which this new acid forms with the ordinary bases occurring in the animal fluids, soda, magnesia, and potash, are all of easy solubility. Thus hippurate of soda requires about two parts of water, at 60° Fahr. to dissolve it, whereas, the corresponding uric salt, which constitutes, as is well known, the gouty concretions or chalk stones, is acknowledged to be nearly as insoluble as uric acid; it requires at least 4000 parts of water, to dissolve one. Hippurate of ammonia again is but little less soluble than the hippurate of soda, while the urate of ammonia will only dissolve to the amount of 1-480th part. Hippurate of lime, the least soluble of these salts examined by me, requires eighteen parts of water to dissolve one.

The application of the above principle has proved of material benefit in the treatment of certain unhealthy conditions of the urine, occuring in subjects of a calculous or gouty diathesis; since it enables the practitioner to obviate entirely the various depositions resulting from excess of uric acid, the fruitful source of that most distressing malady, stone in the bladder; as also to control and prevent the formation of the so called tophaceous concretions or chalk-stones, which occasion so much inconvenience, deformity, and pain to individuals labouring under gout.

By judicious exhibition of the benzoic acid, or, according to particular circumstances of a benzoic salt, that is to say, apportioning the dose to the state of the renal secretion, best previously ascertained by analysis, we can fulfil the desired indication with unerring precision, and that, as shown in the above paper, without any risk of affecting the general health, or of irritating the urinary organs.

It is to be kept in mind that this plan of treatment by no means precludes the adoption of other suitable remedial measures. Of course certain rules of diet must be observed, which there is no necessity for referring to here. It would be equally irrelevant to occupy your time with the details of cases,

* In article 24 of our third number will also be found a paper on this subject, but we publish this, on account of its entering more fully into this interesting subject.

several of which have lately come under my notice, and go to corroborate the statements above made.

As benzoic acid is apt to irritate the fauces, unless administered in a liquid state, and as it needs a large quantity of water to dissolve it, it will be found expedient to give it along with phosphate or biborate of soda; since they inhance its solubility without abating its specific power. Thus, four parts by weight, of the former or one part and a half of the latter salt, will enable a comparatively small proportion of distilled water to take up one of the acid. This difficulty, as is obvious, does not apply to the benzoate of ammonia or of potash.

Phosphate of soda not only serves to hold benzoic acid, but likewise hippuric acid, in solution; and this is a point of some consequence, seeing that any excess of the latter acid, accidentally present in the urine, will remain dissolved by means of the neutral phosphate of soda, or the triple phosphate of soda and ammonia (microcosmic salt) naturally existing in that secretion. These phosphates, however, produce a very different effect upon the uric acid, inasmuch as they promptly convert it into urate of soda, by depriving the salt of one-half of its base, and thereby transforming it into biphosphate. This fact, which recently presented itself to me in the course of some experiments, and which has not been heretofore noticed by any chemical authority, seems to furnish a simple and rational explanation of the mode of formation of urate of soda, the basis of chalk-stones. Hence, whenever the oxidizing process of the kidney is proceeding with such energy as to supply a superabundance of soluble phosphates on the one hand, and of uric acid on the other, there must inevitably result an excess of urate of soda.

Having premised the above observations with the mere view of pointing out what appears to cast some new light upon the importance of benzoic acid and its compounds, as therapeutical agents in virtue of their power of generating hippuric acid, it has appeared to me proper to indicate the distinguishing features of these two acids, as some objections have been started touching the difficulty of discriminating the one from the other. For convenience sake, the leading peculiarities have been arranged in collateral order, as follows:—

Benzoid Acid	*Hippuric Acid**
Crystallizes in hexagonal needles, or in white, diaphanous, pearly, flexible laminæ.	Crystallizes in four-sided prisms with dihedral summits.
Is soluble in two parts of ether.	Is very sparingly soluble in ether.
Is not changed by dilute nitric acid.	Treated with dilute nitric acid, and evaporated to dryness, produces, on the addition of ammonia, a beautiful purple colour.
Heated with three times its weight of hydrate of lime generates simply benzole.	Heated with three times its weight of hydrate of lime disengages a quantity of ammonia.
Benzoate of Ammonia,	*Hippurate of Ammonia,*
On being exposed to a strong heat, melts and flies off in benzoic acid fumes, without leaving any appreciable residuum.	Exposed to heat, melts and assumes a rose-red colour, forming a reddish acid; which being dissolved in water and evaporated, affords red crystals, resembling hippuric acid in their properties.

* The verifications were all made with hippuric acid derived from the human subject.

Benzoate of Potash	*Hippurate of Potash,*
Burns without emitting any particular aromatic odour.	Heated so as to undergo decomposition, exhales the odour of bitter almonds.

On the whole, sulphuric ether furnishes the readiest test for distinguishthese two acids, from the easy solubility of the one, and the difficult solubility of the other in that menstruum.

Provincial Medical and Surgical Journal, July 17, 1841, *p.* 317.

13.—TREATMENT OF SPASMODIC AFFECTIONS OF THE LARYNX WITH VERATRIA.

By James Tunstall, M.D

[It is now well known to the profession that Dr. Stephenson Bushnan has strongly recommended the ointment of veratria in the treatment of dismenorrhœa. Dr. Bushnan supposes that dismenorrhœa may frequently be owing to perversion of the nervous action of the lower portion of the spinal nerves, and found good effects from the external application of the ointment of veratria. Dr. Tunstall suggests that if the ointment of veratria has this effect on the lower portion of the spinal marrow, why may it not have a similar effect on the superior portion? and in this latter case it would be supposed to be useful in spasmodic affections of the larynx and appendages. Dr. Tunstall accordingly tried it in the case of Mrs. Stokes with this view. Mrs. Stokes was a school-mistress: she was usually seized with a sense of suffocation, the whole of the muscles employed in respiration were put into violent and convulsive action, the lower extremities became cold, the face purple, the whole surface was bedewed with cold perspiration; she was perfectly sensible during the whole attack; the fit usually terminated in ordinary dyspnœa which lasted for hours or even days. Every variety of depletion and counter-irritation had been employed; also opiates and antispasmodics, without the least advantage.

Dr. Tunstall therefore resolved to try the ointment of veratria; respecting which he says:]

I therefore prescribed a scruple of veratria to one ounce of simple cerate, and directed that a small portion should be applied on each side of the cervical vertebræ, and rubbed well into neck, throughout its whole extent, twice a day. About a fortnight after commencing its employment, she had an attack of what she said would have been her old complaint, but she repeated the ointment as soon as she felt it coming on, and it terminated in simple dyspnœa, without spasm or expectoration, in an hour or two.

She persisted in its use about two months, during which time she had several attacks of winter catarrh, but without spasm; she discontinued its employment in December; and from the 21st of October, the day on which it was first prescribed, to the 20th of June, she had no return whatever of her spasms, but recovered her health so well that she was enabled to walk eight miles without assistance, whereas, previously to its use, she rarely if ever left her residence, as it always induced a return of the spasm.

I shall not offer any remarks on the efficacy of the veratria in diseases attended by undue nervous excitability, or perversion of nervous action; but I am led to believe, by the result of the above case, the only one in which I have tried it, that it is a valuable addition to the materia medica, and one

which may be safely employed for the relief of those distressing nervous affections which have hitherto baffled professional skill.

Provincial Medical and Surgical Journal, Aug. 14, 1841, p. 388.

14.—TINCTURE OF ACONITE IN NEURALGIA AND CHRONIC RHEUMATISM.

By Joseph Curtis, Esq., Camden Town.

[Dr. Pereira recommends the external application of this powerful drug in cases of the above-named diseases, when fever, inflammation, and other constitutional disorders are absent; in short, whenever there is violent pain without any other particular marks of disease. Mr. Curtis gives some interesting cases in the Lancet, to show the efficacy of this treatment. He rubbed the tincture on the part affected with a small piece of sponge tied on the end of a stick; for if it wet the fingers it produced an unpleasant numb sensation. The rubbing must be continued till the requisite quantity of the tincture is used. Mr. Curtis relates the following cases:]

Case 1.—*Painful affection of the nerves about the hip.*—Margaret May, ætat 35, Jan. 16, 1840, about six weeks after parturition, was attacked with severe intermitting pains about the gluteal muscles and loins, and shooting round into the groin, and sometimes half way down the thigh. She is unable to sit up or move in bed; she has headach, but no other constitutional affection.

Leeches, aperient medicine, &c. were used, from which she experienced slight relief, but the pain soon returned.

18. The pain has been very severe to-day, but at present is easier, unless she move, which brings on a return; bowels confined; head much worse.

Take two aperient pills, and rub in one drachm of the tincture of aconite.

19. Has passed a good night, and has had no pain since the tincture was applied; had cramp in the calf of the leg for a short time; has headach at present.

She had no return of the pain about the hip after this; the headach was relieved by ordinary means.

Case 2.—January 20, 1840, ——— a glazier, complained of rheumatism in the elbow joint, of three days' standing; the part was slightly swollen, and tender; he experienced great pain upon extending or flexing the joint; no constitutional symptoms.

Rub in one drachm of tincture of aconite. The pain was much relieved at the time; could extend the arm, but not flex it, probably from the skin being swelled. He did not attend again.

Case 3.—January 23, Miss P., ætat. about 35, is subject to rheumatism of the scalp, particularly in cold or windy weather; has had severe pains to-day, the weather being very windy; has no constitutional symptoms.

Rub in two drachms of the tincture of aconite.

24. Has had no pain since the application.

I saw this lady occasionally for some weeks afterwards, during which she had no return of the pain. Although living near me, she has not since applied to me; therefore I consider the cure perfect.

Case 4.—January 25, 1840, Mr. Y., ætat. about 70, has severe pain along the lower jaw on the right side, and shooting up to the forehead, in the

course of the fifth pair of nerves; likewise over the posterior part of the right parietal bone.

Apply two drachms of the tincture.

Felt the usual sensations of cold, heat, and numbness during the application; and lost the pain in about a quarter of an hour. I saw him about six weeks afterwards, when he had no return of the pain.

This gentleman was very much out of health at the time, his digestive organs being disordered, accompanied by fever, &c., which symptoms remained after the pain in the face was removed.

Case 5.—Mary Keith, ætat. about 40, has been long subject to rheumatism, by which the use of her hands is impaired. At present complains of severe pain across the forehead, on the left side, in the situation of the course of the supra-orbital nerve. The pain comes on several times daily, and is much increased by going near a fire. During the accession of pain she loses the sight in the left eye. Has had pain under the right lower jaw, which is better; otherwise she is in tolerable health.

Apply one drachm of the tincture.

The application produced the usual symptoms, and with them the loss of sight in the left eye. After the numbness left her, the sight of the eye returned, but she felt no more of the pain.

This is a remarkable case, showing that there is some very important connection between the supra-orbital nerve and the organ of vision.

London Lancet, June 26, 1841, *p.* 474.

15.—ON THE STRUCTURE OF THE SMALL POX PUSTULE, &c.

By W. H. Judd, Esq., M.R.C.S., Surgeon to the Fusileer Guards, &c.

[The following observations of Mr. Judd will be read with interest, inasmuch as they will enable us to practice less empirically in our applications to the surface, when we wish to prevent the pitting and deformity so common in this disease. Mr. Judd has taken great pains to dissect the skin while under the influence of small pox in its various stages; and he has discovered a remarkable septum and band in each pustule. He says:]

This eruption commences by little red points on the skin (as described by Hooper and others,) resembling flea-bites. This appearance I found to arise from increased vascularity, caused by zones of minute vessels enlarging and projecting from the surface of the cutis; they secrete a thin serum, which gradually raises a ring of the cuticula externa from the rete mucosum, and so forms a vesicle, without breaking up some of the thread-like attachments and ducts in the centre, between the cutis, rete, and cuticle. Hence the cuticular covering of the vesicle is bound down at that spot by this thread-like band, which causes it to have a peculiar depressed summit. As the disease advances, the efflorescence and inflammation increasing, the serum becomes gradually more opake, and coagulable lymph is next thrown out, which at once consolidates and forms a thin flat layer, or plate, shaped like a cymbal, but with a small hole left through its centre, from the circumstance of the coagulation taking place around the before-mentioned thread-like attachment of the cuticle. About this period the fever and inflammation are increased (called the secondary or suppurative fever); and, in this stage, pus being secreted instead of lymph, it elevates the lately-described cymbal-like plate, and causes it to divide the cavity horizontally into an upper and lower cell. As the disease advances, the progressive distention breaks up the re-

maining attachment between the cuticle and cutis: the pus in the cell below passes through the hole in the cymbal-like plate, or septum, above, and blends with the serum in the vesicle, changing it into a pustule (called the maturating stage). By this time the lower part of the pustule is completed by an extremely thickened state of the rete mucosum, which forms a raised lip, or cup, constituting its base; so as, in ordinary cases, to shut off and protect the cutis from the contact of pus and ulceration. Hence, in most instances, the pustule may be stripped off with the cuticle and thickened rete, leaving the cutis entire; but the cutis vera has frequently a slight depression, or pit, left from the effect of the ulceration which has penetrated the base of the cup; and occasionally a small papula or two of the cutis is found projecting into its centre, to which the thread-like band of attachment from the cuticle still adheres.

Having described the rise and progress of the vesicle to its completion as a pustule, with the various stages of accompanying inflammation, it now remains for me to describe the part we are most interested in; viz., its decline and consequences. Well, about the eleventh day (varying a day more or less in different epidemics) the cuticular covering bursts a little to one side of the apex of each pustule, and its contents gradually ooze out. If the affection has run through its stages mildly, the chief part of the fluid evacuated is but opake lymph, which, drying, forms a dark crust; if, on the contrary, the disease has been severe or confluent, an offensive pus is let out, which leads to scabs, sores, and ulcers in various parts. In bad and confluent cases, where inflammation has run high, not only is pus formed in contact with the cutis at the base of each pustule, but there are also thrown off shreds or sloughs from the true skin, causing permanent depressions or white pits for life. Temporary red stains are always left upon the skin, for a time, after this eruption, and are caused by increased vascularity, thickening and rising of the rete; but these disappear, if no ulceration takes place.

Having anatomically traced the cause, we are now fully prepared to enter upon the second stage of our inquiry; viz., the prevention of the effect, or pits, and consequent deformity. In the first place, I shall premise the propriety of lessening, on the attack, the attendant fever and heat by all prudent means; as the height to which the edges of the cup, or scar, will rise, and the depth to which ulceration, or slough, will proceed, depend in a great measure upon the degree of inflammation and fever (though some families are certainly also influenced by constitutional peculiarity); but, commonly, I cannot advise blood-letting, especially to any extent, on account of the debility that invariably follows this disease; nor can I praise the use of antimonials and medicines that determine to the skin, as by increasing the cutaneous circulation they give rise to a fuller development of the pustules. I believe the safest and best modes of treatment is to give a brisk cathartic of calomel and jalap; to keep the patient on a strictly antiphlogistic diet; to put out the fire and lighten the clothing, so as to keep the sufferer's temperature as near the standard of health by the thermometer as possible, yet not so low as to impede a fair developement of the eruption on the most parts of the body. Nor must we abstract food for so many days in succession, as to let the system flag from that cause; for a certain degree of vigour is needful: but all beyond this does harm. Just after the maturation, the patient will require support; and, in some cases, meat, wine, or even bark. I should not have touched upon treatment, had not the size of the pustule, and consequent extent of the pit and deformity that will remain after the eruption, so much depended on it; and also the prevention of cerebral symptoms, sometimes said to occur on interfering with, or suppressing, much of the general eruption.

I shall next remind the reader, that the face, and parts commonly exposed to light and air, always, as we might anticipate, suffer most deformity by small-pox pits; for air and light give vigour to arterial action, darkly tint the leaf, and heightens colour in the cheek and pits. Hence small-pox pustules on the tongue, throat, and parts excluded from their agency, are nearly white, and seldom fully developed; and hence the success of Dr. Pelion's method of preventing the ulcerative process, pits and stains, by the exclusion of light and air from the chamber of the sick. But, in doing this, the opposite extreme must be avoided; for it is well known that warmth and moisture (for you can scarcely exclude the air without increasing warmth and moisture) increase suppuration, and materially influence the development of all eruptions: even a poultice applied to a vaccine *vesicle*, from its warmth and moisture, will so alter the action of its secretory vessels, as in twenty-four hours to convert it into a *pustule*. Destroying the pores and transparency of the skin by the application of the nitrate of silver, successfully practised by Dr. Serres in this disease, amounts, in my opinion, only to the exclusion of light and gases.

Mr. Le Grand's plan of smearing the surface with gum mucilage, and covering the surface with gold-beater's skin, also lessens the action of light and excludes air; but it advances a step farther, by exerting another powerful curative agency, viz., an uniform pressure. Which reminds me of a method I have pursued for years, that of curing pustules, vesicles, and sloughing ulcers on the face, &c., by a stiff coating of hot yellow wax and oil, after they had resisted all common treatment.

Mr. George's plan of caking over the surface with calamine, acts not only by excluding light, but by absorbing moisture, and, through its astringent qualities, causing contraction of the living pustule. I have long since so applied the white oxide of zinc, and found it to act in a similar way upon vesicles, causing them to break, part with their contents, and heal. A coating of pure liquor plumbi acts in almost the same manner; and many eruptions about the face, hands, and neck, that have been obstinate, cease to come out, and speedily heal, if light and air be excluded and motion restrained by uniform pressure; though effected if only by adhesive plaster and a roller.* Thus we approach by degrees, and in effect almost to the method recommended by Dr. Olliffe; viz., the application of emplastrum ammoniaci cum hydrargyro, which in itself seems to possess the curative qualities of most of the other methods, with the valuable addition of power to promote absorption of the serum and lymph, when applied early in the disease, or even of the raised edges of the cup-like bases, which give rise to pits, scars, and seams in the latter stage. If the serum and lymph be thus caused to be absorbed, the vesicles are not completed, and therefore the pustules do not occur. And this power over the disease we may fairly consider the remedy to possess, especially knowing, as we do, that the absorption of new-formed parts can be so much more easily promoted than that of the originally-formed structure. Any other specific action from the mercury and ammoniacum appears very unlikely; and as to animalcula causing causing the pits, Dr. Olliffe may certainly dismiss the idea from his consideration, notwitstanding that animalcules exist in all long-retained secretions in the human body.

After numerous dissections and microscopic examinations, I may affirm that this eruption does not commence by enlarged papillæ, but by simple zones of minute vessels projecting from the cutis, throwing out serum, and raising a vesicle; and that although the red depositions protrude beneath the cuticle, so as to be felt on the surface, it is merely from distention; and

* I have not noticed the early puncturing of each pustule, which is useful to prevent pits, and but anticipates Nature's plan.

enlarged papillæ are not to be found until after the maturating stage, and not then, except in the base of the pustule, and only when ulceration has penetrated the surface of the cutis. In many cases, even where lasting pits and deformity ensue, sloughing and ulceration will not generally be found to have penetrated through the corium to the cellular membrane beneath. I explain these points merely to set right some mistaken theory in the lately published paper.

The application of the mask, or plaster, in the very early part of the eruption, is well insisted on. It should be applied as soon as the nature of the eruption is ascertained, and the red projections can be distinctly felt as early as the third day, and be continued without *intermission or removal* until the maturating stage has been completed in other parts of the body, a period of about five days. That this mode of treatment possesses vast power to arrest the full developement of the eruption is undoubted; and I conceive so innocent a preventive merits trial by all medical practitioners desirous of preserving the appearance of their patients, and of advancing science.

London Lancet, June 12, 1841, *p.* 392.

16.—TREATMENT OF ACUTE ARTICULAR RHEUMATISM BY LARGE DOSES OF NITRATE OF POTASH.

By M. Aran.

This is a very long paper, detailing the results of twelve cases of rheumatism treated by MM. Gendrin and Martin Solon. Of these, ten were males, two females, from the ages of sixteen to forty; the stage of the disease varying from the second to the fifth day, and the previous treatment having been unimportant. The nitrate of potash was administered in some demulcent ptisan, the mean quantity taken by each patient being *an ounce and two scruples per diem*, and twelve ounces throughout the whole duration of the disease. The mean duration of the disease was eight days from the commencement of the treatment, and rather more than twelve from the period of invasion. The usual effects were very abundant perspirations; occasionally copious stools, but without colic; and free secretion of urine. The digestive organs were unimpaired in their functions; only one patient vomited; the pulse was depressed; and the pain in the joints rapidly diminished. In three cases complicated by endocarditis or pericarditis, these affections rapidly subsided, though no other remedies were employed. Only two patients suffered a relapse, and they were again cured by the same means.

[This treatment is not new; for Brocklesby and White in this country, towards the close of the last century, gave nitre from ten drachms to two ounces in the twenty-four hours, and spoke highly of its efficacy both in acute and chronic rheumatism. However, the mean duration of the disease under its use does not appear to be less than is obtained by other means. Dr. Hope, who trusted to calomel and opium, states the usual duration to be eight or ten days, and we have frequently seen severe cases rapidly cured by colchicum and opium. Bouillaud, who employs free bleeding, gives one or two weeks. Dance, gave the tartarized antimony freely, forty to sixty days. The nitre is evidently preferable to the two latter.—*Ed. Brit. and For. Med. Review.*]

British and Foreign Medical Review, July, 1841, *p.* 247.

17.—TREATMENT OF HÆMOPTYSIS WITH TARTRATE OF ANTIMONY.

By Dr. Stoll, of Vienna.

It might at first be presumed that the tartrate of antimony, in consequence of its vomitive action, should rather aggravate than arrest the spitting of blood from the lungs; but, from the observations of Stoll, it appears that this is really not the case. The following instance, among many others, related by the illustrious physician of Vienna, is well worthy of notice.

"I remember," says he, "to have had under my care a young Turk who had been seized with bilious fever and with profuse hæmoptysis. I immediately ordered him a vomit. The attendants were frightened at the prescription, and most anxiously awaited the effects of the medicine, being afraid that the hæmorrhage would be greatly increased by the effects of vomiting. But no sooner had the patient rejected a large quantity of bile from his stomach, than all traces of the hæmorrhage ceased, and he recovered without any return of it."

After citing numerous similar cases, Stoll remarks:—"*Vomentes ne guttam sanguinis rejecerunt, quasi ipsa emesis hiantia pulmonum vasa quovis auxilio citius atque efficacius stringeret; et, vomitu jam peracto, aut nihil omnino sanguinis, aut ejus nonnisi paucum quid per intervalla et ad exiguum tempus comparuit.*"

It should be stated that Stoll seems to have employed this mode of treatment only in cases of hæmoptysis accompanied with bilious symptoms, and seldom in those where there was any marked predisposition to pulmonary consumption.

Several writers subsequently have adopted the emetic treatment of hæmoptysis, and very different results seem to have been obtained in the hands of different physicians; for, while some strongly approve of it, others as energetically condemn it. As a general remark, we may state that ipecacuan has usually been preferred as an emetic, in cases of pulmonary hæmorrhage, to any of the preparations of antimony; the former drug being supposed to possess a peculiar astringent property on the vessels of the lungs.

M. Nonat, one of the physicians of the Hotel Dieu at Paris, however, has of late been using the tartrate of antimony in numerous cases of the disease, and reports most favourably of its effects. He has used it not only when the stomach and liver were evidently at fault at the same time, but also in many instances where there was no disturbance of the digestive organs, and where, therefore the only indication was to arrest the discharge of blood from the chest.

Case.—A man, 30 years of age, was admitted into the Hotel Dieu on the third day of an attack of hæmoptysis, which had resisted bleeding from the arm and the use of other remedial means: it was the first attack of the disease which he had ever experienced.

The symptoms on his admission were well marked: frequent cough, with the expectoration of frothy sanguineous sputa: mucous and sub-crepitant *rale* over the summit of the right lung (percussion gave a dull sound at this spot); sense of heat in the chest, and dyspnœa; pulse frequent and rather strong. There were also symptoms of considerable gastric disturbance, such as a coated tongue, bitter taste in the mouth, nausea, &c.

An emetic of tartrate of antimony was ordered; the stomach symptoms were quickly relieved, and the spitting of the blood entirely ceased.

The *second* case is very similar, and the *third* one was still more severe.

A middle-aged woman was seized with a second attack of hæmoptysis, which had already continued for four days before M. Nonat saw her. The

previous attack had occurred two years before, and had lasted for nine days, before the hæmorrhage entirely ceased. An antimonial emetic was at once ordered her; it caused her to vomit three or four times freely; at the expiry of a few hours the sputa ceased to exhibit any trace of blood; and, from this time, they were nearly colourless.

After mentioning another successful case, M. Nonat then adduces the history of two other cases, in which the emetic practice failed altogether in arresting the sanguineous expectoration. In one of these, the patient was evidently labouring under tubercular phthisis in an advanced stage; the first dose of the emetic seemed to produce little or no effect on the pulmonary hæmorrhage; but, on being repeated a few days subsequently, it was distinctly increased, and considerable difficulty was experienced in subduing it.

M. Nonat candidly admits, that the exhibition of emetics in a case of hæmoptysis, where we have reason to suspect ulceration of the lungs, is scarcely warrantable; and he very judiciously adds, that the practice is best suited to those cases of the disease in which the hæmorrhage is of an active nature, and is accompanied with the *molimem hæmorrhagicum.—Bulletin de Therapeutique.*

[The editor of the Medico-Chirurgical Review adds the following remark, with which we cordially agree, as the treatment by small doses of the tartrate of antimony so as to keep up a state of nausea, fully confirms Mr. Trenor's opinion given in a former number of this Retrospect. (See No. 1, Art. 12.)]

We have, for several years past, been in the habit of employing the tartrate of antimony in the treatment of hæmoptysis; but rather in small doses repeated at short intervals, than in full doses as an emetic. For example, a grain and a half or two grains of the salt may be dissolved in eight ounces of water, and half an ounce of syrup of poppies added to the solution; of this mixture, two table-spoonsful should be given every two or three hours. We can confidently recommend this practice, both for its safety and its efficacy.

Medico Chirurgical Review, July, 1841, *p.* 190.

18.—CROTON OIL IN NERVOUS DISORDERS.

By John Cochrane, Esq., Edinburgh.

[The following cases will confirm the observations of Dr. Newbigging, to be found in Article 11, of our last number.]

Some time ago I was called to attend a patient aged about 30, of a strong and robust constitution. When I first saw him, he was outrageous, and could not easily be managed by four strong individuals. His gestures, deportment, and violence were such as would have induced many practitioners to have had recourse at once to the straight jacket, but to me they occasioned little alarm, as I well knew the certainty of my remedial agent speedily producing an effect, at once useful to the patient, and gratifying to those around him. I prescribed as follows:

℞. Ol. Tiglii gtt. x.; Mucilage Gum Arab.; Syrup Simp. aa ℥i. Misce. Sign. Give a teaspoonful every ten minutes until he become calm.

Half an hour had scarcely passed when he became quiet, and at the end of an hour, he had so far recovered as to be able to sit up in bed, and give rational replies to every question, whereas, before he got the medi-

cine, he could scarcely articulate one word distinctly. Under the use of the above remedy, this individual ultimately so far recovered as to be able to follow his usual employment as a house-painter.

In December, 1839, I was called to attend a female patient, whom I found in bed completely prostrate, and apparently insensible to every thing around her. In fact she was completely comatose,—her pupils were greatly contracted, her pulse could scarcely be felt, and, in fine, she seemed all but sunk into the sleep of death. The remedy which I employed in this case, was the croton oil, in combination with mucilage and castor oil, thus proportioned:

℞. Ol. Tiglii, gtt. viij.; Ol. Ricini, ℥iij.; Mucil. G. Arab. ℥i. Misce bene. Sign. Enema. To be administered in a quart of gruel.

Though I employed the above potent remedy, I must say, I scarcely expected any good to result from it; but to my great joy and satisfaction, it had a most beneficial effect upon the patient, not by producing an alvine torrent, but by occasioning a very copious discharge from the bowels per anum, as well as from the stomach, by vomiting, together with a return of sensation and motion, and the use of her mental faculties. Indeed, the effect of the medicine was truly astonishing, for when I left her she seemed all but dead. On my second visit, only a few hours afterwards, she was able to sit up in bed and converse with those around her.

The following case I deem of great importance in regard to the effects of croton oil. It did not occur in my own practice, but in that of a gentleman in whose testimony I can place the utmost confidence. About two years ago he was called to see Mrs. E., who had been ill about a fortnight. Her disease appeared to depend entirely upon obstinate constipation, to remove which, the medical gentleman who had been previously in attendance upon her, had used a great variety of powerful purgatives, which failed to produce the desired effect. My friend was at this time in the habit of prescribing croton oil very freely, and considering this a good case for its exhibition, he ordered her to take eight drops, which, though a large dose to commence with, proved ineffectual. After a few hours, he repeated the medicine in small doses, till the patient had taken in all fifteen drops within twelve hours, when the bowels were freely opened. The purging which followed gave immediate relief, and Mrs. E. rapidly recovered, without suffering any injury from the large quantity which she had taken of this powerful oil.

Lond. and Edin. Monthly Journal of Med. Science, July. 1841, *p.* 475.

19.—TREATMENT OF CHOREA.

By T. H. Wardleworth, Esq., Rochdale.

At a recent meeting of the Royal Medical and Chirurgical Society, at which Sir Benjamin C. Brodie presided, several gentlemen then present expressed sentiments entirely at variance with each other, as to the pathology of chorea—some asserting that the brain and its membranes were the immediate seat of the disorder—others the medulla spinalis and its membranes.

Notwithstanding the lucid manner in which the pathology of the disease has been treated by Drs Copeland, Prichard, and Bright, there still remains a doubt as to the real seat of chorea. From a careful analysis of the different opinions given relative to the peculiar morbid appearances presented to the view of the pathologist, I am decidedly inclined to view them as the consequences, rather than the cause of the disease.

If we refer to the condition of the intestinal canal, we shall find, I am disposed to believe, causes acting that will produce all the varied motions of the voluntary muscles, not dependant on any organic lesion, either of the brain or spinal chord.

This state produces derangement in the whole of the chylopoietic viscera, setting up thereby constant gastro-intestinal irritation, with a morbid action in those filaments of nerves, called by that distinguished physiologist Dr. M. Hall, *incident*, and which is conveyed by them to the spinal cord, these communicating with the assistance of other nervous filaments, the involuntary motor, which cause, by what Dr. H. terms reflex action, those phenomena to appear which are so characteristic of chorea. Puerperal mania frequently depends upon the presence of scybalous matter in the bowels; and on the removal of it, the disease has been known to subside. A variety of noncongenital talipes is supposed by Dr. Little to arise from "some deviation from the healthy state in a part of the spinal marrow, where the roots of the motor nerves distributed to the muscles of the calf of the leg are implicated or irritated, causing them to become involuntarily contracted; or these may exist elsewhere from disease, such as an irritation of the mucous membrane of the alimentary canal, by improper, or undigested food, or worms." Following out this train of argument, may we not suppose, as I have already intimated, that functional derangement of the mucous membrane of the bowels may produce chorea, through the medium of the nervous system, thereby producing the contortions which we witness in this disease.

The indications of cure are, I think, 1st, To unload the bowels, if a torpid condition of them exist; and, 2ndly, To restore the tone of the stomach and intestines. The purgative formula which I have found the most efficacious, is the following:—

℞. Ext. Elaterii, gr. j.; Pulv. Jalapæ, gr. xxxvj.; Pulv. Zingib. gr. xxiv. Misce et divide in chart. xij. capt. j. quarta quaque hora donec alvus soluta fuerit.

From the well-known character of the elaterium upon the exhalants of the intestinal surface, it is, in my humble opinion, the most likely to promote not only a free defecation, but it will also have the salutary influence of increasing the natural secretion from the mucous membrane of the alimentary canal, thereby fulfilling the first indication. I have mentioned what I find from experience, to be the advantages arising from using the elaterium, as many practitioners object to its employment, in consequence of its powerful effects on the bowels; yet, whatever may be the objections urged against this medicine, I feel convinced, from past experience, that it is highly efficacious in restoring the languid condition of the intestinal canal.

After the bowels have been fully acted upon, should the disease still continue, I then prescribe that important therapeutic agent, the ammoniated tartrate of iron,—a remedy which, though little known, still possesses chalybeate properties far superior to any other preparation of iron, with the exception of the magnetic oxide. Its pleasant taste, and perfect solubility in water, render it exceedingly agreeable, even to the most fastidious.

I am inclined to think, that this remedial agent will ere long be introduced into the pharmacopœias, and if given according to the manner I am in the habit of prescribing it, no practitioner will be disappointed in the results expected from its use. No doubt there are complicated cases of the disease, which render other treatment advisable, and which approach to epilepsy, so decidedly marked, as to leave no doubt of the propriety of having recourse to the antiphlogistic plan of treatment. Though this is the case, I have not seen one instance where I thought it necessary to adopt the starving plan

of cure. Neither blisters, nor any other external application have I prescribed, since I adopted the use of the ammoniated tartrate of iron in chorea, never having been disappointed in my expectations of the means employed. My mode of using this elegant preparation is the following. I commence by giving three grains three times a-day, (in quovis vehiculo,) the dose to be gradually increased to five grains, which will generally be found sufficient to subdue the disease, care being taken at the same time to keep up a free action of the bowels, combined with a light yet nutritive diet. Free exercise in the open air, after the disease appears to decline, is essential to the patient's perfect recovery. From a fortnight to three weeks is about the average time required by the proposed treatment to subdue the worst forms of chorea.

Such is the mode of treatment which I have adopted for some time, and I indulge the hope, that if adopted, the whole farrago of antispasmodics may be dispensed with in the treatment of chorea. I am fully persuaded, from ample experience, that should my manner of treating this affection prove as successful with other practitioners, as it has been in my own practice, that the ammoniated tartrate of iron will assume a place amongst the highest in the list of chalybeates.

Lond. and Edin. Monthly Journal of Med. Science, July, 1841, *p.* 490.

20.—NEW PLESSER AND PLESSIMETER.

By JOHN BURNE, M.D., Fellow of the Royal College of Physicians; Physician to the Westminster and Magdalen Hospital, &c.

[Percussion may be employed either mediately or immediately, as is well known to every one. The immediate percussion, as used by Lænnec, by means of the three fingers supported by the thumb, requires the greatest nicety of adaptation, and unless very carefully and skilfully executed will only deceive the practitioner. On many accounts the mediate percussion as used by Piorry is more to be depended upon, especially when used by those who are not thoroughly masters of the practice; which must include the great majority of our profession.

Dr. Burne says:]

The ivory plate employed by Piorry was made trial of by myself for a considerable time, but finding it difficult to hold in many positions of the chest, and painful to strike when it was necessary to examine the whole chest, perhaps of several patients in quick succession in hospital practice, I relinquished it in favour of the circular pieces of sole leather recommended in one of the periodicals several years ago. These pieces of sole leather, about one inch and three-eighths in diameter, rounded at the edges, answer well; one piece held in the left hand being placed flat upon the chest, and struck by the other held perpendicularly, that is, edgeways, in the right hand. Sole leather is the most agreeable and the best adapted medium for percussion that I have made trial of, and is adopted in the instruments I am about to recommend. Caoutchouc I have found unfit, and cork in no way desirable.

The instruments in question are two—a *plesser* and a *plessimeter*. The plessimeter consists of a circular piece of sole leather, full one inch and a quarter in diameter, fixed in a steel stirrup by means of screws at the ends of the cheeks; and to the head of the stirrup, is attached a handle, partly of steel, partly of wood: the whole about eight inches long. The screws admit of the free motion of the piece of leather upon its axis in the stirrup, by which means it can adapt itself to any part of the chest at any inclination.

The plesser resembles a hammer; the head formed of a piece of solid steel nearly cylindrical, having one end bored to admit a cylinder of sole leather, of which the extremity projects ont half an inch, and is slightly conical, like the end of the fore-finger. It is with this cylinder of leather that the horizontal circular piece in the plessimeter is struck.

The method of using these instruments is simple. The plessimeter, held in the left hand, is applied to the chest with moderate pressure, care being taken that the whole surface of the circular leather is in exact and equal contact with the skin; it is then struck perpendicularly with the plesser, held in the right hand, with a force proportioned to the thickness of the integument and muscle covering the parts of the chest percussed. The essential precautions of Lænnec—that the skin be equally stretched on both sides; that the ribs be not struck on the one side, and the intercostal space on the opposite; that both sides be struck with equal force—are easily observed; as well as the additional one, that the plesser should always fall perpendicularly upon the plessimeter.

By the aid of these instruments every region of the thorax will be percussed with facility; an exact comparison of the resonance of relative points or regions of both sides can be instituted; and resonance can be elicited from the parts most thickly covered, not with muscle only, but with the scapula, and even with the dress. The dexterity acquired by habit is necessary to regulate the force of the stroke, and to adapt it to the various regions of the chest. The less the force with which the degree of resonance can be determined, and the greater the delicacy with which it can be applied, the better.

Medical Gazette, June 11, 1841 p. 468.

21.—TETANUS CURED BY TOBACCO.

By H. Bullock, Esq., Oxbridge.

[The following case relating to this dreadful disease is interesting:]

George Clarke, aged 33, a healthy labourer, of tolerably regular and temperate habits, was admitted as a patient of the Uxbridge Dispensatory, labouring under symptoms of tetanus, on Thursday the 13th of May. Upon entering his apartment I found him lying in a state of opisthotonos, with his countenance peculiarly characteristic of the disease, the paroxysms occuring about once in three minutes, when the pain was most agonizing, whilst during the interval even the muscular rigidity was intense, the perspirations profuse, the function of deglutition was performed with the utmost difficulty, and never without producing a spasm.

The history of the case, as obtained from the patient and his wife, is, that six weeks ago he received a blow on the left side, between the lower rib and the crista of the ilium, and that he has had pain in that situation ever since, though not sufficient to incapacitate him for his ordinary occupation of a labourer until Tuesday (two days before I saw him,) when he complained of stiff neck and sore throat, with an almost entire inability to swallow, which symptoms have increased up to the present time. His pulse is 80, and regular. Firm pressure over the seat of the accident creates no further pain than when applied to any other portion of the abdominal muscles, which always has the effect of exciting a paroxysm; nor is there any perceptible fulness there. The trismus admits of the separation of the jaws to an extent of about the third of an inch. His respiration is hurried, and he describes a constant and severe pain in the site of the diaphragm, extending from the ensiform cartilage to the spine. I now prescribed—

℞. Hyd. Chlor., Ext. Coloc. Co. aa. gr. v.; Ol. Croton. ♏j. ft. pil. ij. st. sumend.

℞. Tabaci Foliorum, ʒss.; Aquæ ferventis, ℥ix. Macera per quartam horæ partem; et cola ft. enema statim injiciend.

Evening.—The remedies have had the desired effect of removing from his bowels, large, black, and scybalous evacuations. There had been no collapse peculiar to tobacco; and the man's sufferings appeared rather enhanced than alleviated since my visit in the morning.

Enema repetatur sexta quaque hora.

℞. Quinæ Disulph., Ferri Sulph., Zinci. Sulph. aa. gr. ij.; Acid. Sulph. Dil.; ♏v. ex Mist. Camph. 3tia quaque hora. Brandy in arrow-root, and strong beef-tea.

I will not render the perusal of the case wearisome by a narration of the daily reports and slighter signs of amendment and alterations, but will merely state the general outline. The above plan having been rigidly adhered to, for three days, the patient had very materially improved, the paroxysms occurring about every twenty minutes, when they were shorter in duration and less in severity. There is great permanent rigidity of the whole muscular system. The trismus has so much diminished as that the first joint of the index finger can be now easily admitted into the mouth; there is yet extensive opisthotonos; his countenance has very much improved, his perspirations lessened, his breathing is not so much oppressed; and he is now able to sleep for half an hour at a time: his pulse remains the same except at the period of a paroxysm, when of course, it becomes disturbed; however this shortly subsides. The tobacco produced the usual symptoms of excessive prostration every time it was administered, which generally continued for two hours, with the exception of the first three, when there was no sensible effect. This agent was now omitted, and he was to continue the tonic with half a pint of brandy per diem, and

Hydr. Chlor., Extr. Coloc. Co. aa. gr. v; ft. pil. ij. alt. nocte.

5th day.—Since the last report, that of the third day, all the symptoms have returned, and in a more aggravated form than previously, the jaws being perfectly clenched, and his pulse quick and feeble. Notwithstanding this depressed state of the circulation, the enemata were again ordered, to be injected every eight hours; and after the two first he began to improve; if, however, from any accident a longer interval were allowed to elapse, the spasm and profuse perspiration immediately increased. This treatment, omitting the pills, was diligently persevered in for four days, without intermission and with the best effect; then the tobacco was discontinued gradually.

12th day.—He is now very much better, indeed there is scarcely any spasm, and he is able to open his mouth without restraint. He was desired to continue his medicine three times a-day, with calomel and colocynth every alternate day. Port wine, a pint daily, ale and mutton chops.

21st day.—The man is quite well, and able to walk out, merely suffering from debility. Mr. James, who witnessed the case throughout, also observed the very remarkable relapse on the omission of the tobacco, and the immediate amendment on its renewal.

I have termed this case one of idiopathic tetanus, merely because it is not one of visible traumatic. From the fact of there having been pain in the situation of the blow ever since its infliction, I am disposed to think some injury was sustained, whether by nervous filament, muscular fibre, or fascia, is uncertain; but probably there was partial rupture of one or more tissues, which I apprehend in a peculiar state of constitution would be inadequate to

excite that violent form of reflected constitutional irritation which we designate tetanus. But the treatment is what I am anxious should attract particular attention. I am aware I have no new remedy to suggest; indeed, I should search the Pharmacopœia in vain, were I to attempt to find a remedy which had not been employed in the treatment of tetanus. Tobacco, then, I consider our sheet anchor in arresting this formidable disease, but it must be employed with a decision and boldness commensurate only with the fatality of the malady, and the extreme urgency of the case. The disease being so rapidly destructive, our time and field of action are very limited; hence I have been induced to use this desperate remedy with a fearless perseverance, as possessing the peculiar property of most powerfully affecting the *entire* system, desiring at the same time to fortify the nervous system by tonics and stimulants, also to induce as much support as possible by means of the strongest animal broths and jellies; for the effect of the remedy, I conceive, as well as that of the disease, upon the vital powers, would tend to render the support imperative; nor is there any thing incompatible in this mode of treatment.

It is worthy of remark, that the patient has never experienced any of the original pain in the side since the appearance of the tetanic symptoms.

Medical Gazette, July 2, 1841, *p.* 582.

22.—ON VACCINATION AND SMALL-POX.

By George Gregory, M.D., Fellow of the Royal College of Physicians, and Physician to the Small Pox and Vaccination Hospital, St. Frances.

[We noticed in our second number, Article 85, the opinions of Dr. Gregory with respect to this subject; but as this gentleman has just published an excellent paper on the same subject, in the last volume of the Medico Chirurgical Transactions, we think it will be interesting to the reader once more to place the views of so eminent an authority before him. It will be remembered that an impression has long prevailed that the variolous and vaccine poisons are the same. Dr. Jenner himself was the first to state this. He maintained that the vaccine was the *primary* and the variolous the *secondary* form of the virus. Dr. Gregory states as follows:]

The doctrine of the identity of the variolous and vaccine poisons has again been brought into notice by the interesting experiments of Mr. Ceely, of Aylesbury. The remarkable fact, that the mucous surfaces of the cow will receive the poison of small-pox, and convert it, in eight days, into the vaccine, gives a strong *prima facie* colouring to the hypothesis which, indeed, by many is now considered as established beyond the possibility of doubt or cavil. A doctrine so important as that of the *Identity of the Vaccine and Variolous Poisons*, involving, as it does, such important pathological results, ought not, however, to be received without inquiry. I proceed, therefore, briefly to investigate the grounds on which it stands.

The facts regarding the origin of vaccinia, so far as they are yet known to us, are these. The morbid secretions from the cow, which possess the singular properties of transplantation to the human frame, of exciting there a like disease, and subsequently of protecting the human body, to a certain extent, from the assaults of small pox, may be produced in that animal in four modes.

1. They are generated spontaneously in the cow, under certain circumstances of soil, season and locality. Such diseased secretions are often met with in cows soon after parturition, in the spring season, and when feeding upon young grass. But they arise also spontaneously from other, and less

known causes, and the disorder spreads like other epizootic maladies. It was this form of vaccine disease which Jenner chiefly studied.

2. The very same malady, developing the very same morbid secretion, is often observed to spread *by contagion*:—that is, by the application of the diseased secretion, thus generated, to the teats of healthy cows, differently circumstanced, by the hands of the milker.

3. The same morbid secretion, possessed of the same qualities may be, and frequently has been, generated in the teats of the cow, by the application to them of the matter formed by the heel of the horse, when affected with the disorder called by farriers *the grease*. This *greasy* matter may also be transplanted to man directly, without the intervention of the cow, proving that the anti-variolous property does not depend on any peculiar change which the virus undergoes while passing through that animal.

4. The same morbid secretion may be excited artificially in the cow by by applying to the teats, or the mucous surfaces of the vagina, vaccine lymph from the arm of a child, even though twenty years had elapsed since that lymph had been humanized or assimilated to the human constitution.

This curious fact was first determined at Paris, in 1836, by M. Bousquet, the intelligent chief of the National Vaccine Establishment of France. The researches of Mr. Ceely have fully corroborated the truth of this statement, and I have frequently seen, both at Paris and at the small-pox Hospital of London, this species of lymph, the *Retro-Vaccine or Vaccine Renouvillee*, as it is called, in use, and producing the most satisfactory results.

To these four modes of exciting that kind of morbid secretion in the cow, which we call vaccinia, (one constitutional, and three artificial), the labours of Mr. Ceely have now added a fifth. He has shown that the very same object may be obtained by applying to the mucous surfaces of the cow the matter of human small-pox. The vessels of the part are thereby excited to the production of a fluid or humour, identical in all its properties with that which arises from a constitutional febrile disturbance in the cow's system, from contagion, from the matter of *grease*, or the long humanized vaccine virus.

When we consider that five modes of producing this morbid secretion in the cow are now known to exist, it is not unreasonable to suppose that others may hereafter be discovered. In this state of our knowledge then, surely we cannot be justified in assuming the fifth and the last discovered of the whole, as the most important, and as affording the true clue to the mystery of vaccine protection. We should reflect that Mr. Ceely's experiments have entirely set aside Dr. Jenner's notion, that vaccinia was the original or primitive poison, which time and fortuitous circumstances had aggravated into the malignant or secondary form, which we call small-pox. They have proved (if indeed they have *any* bearing on the intimate nature of these poisons) that small-pox is the *primary*, and cow-pox the *secondary* form. But when we further reflect on the absence of a contagious principle in vaccinia, and the remarkable fact that febrile disturbance is not essential to its perfect development, we shall probably be nearer the truth in saying, that the vaccine is a poison *sui generis*; that its relation to variola is still hypothetical; that the real and intimate nature of the protection which it affords, is still unknown to us; and that a thorough acquaintance with its anti-variolous powers must be derived, not from analogy, but from an extended and careful observation of facts, continued through a long series of years.

Medico Chirurgical Transactions, Vol. 24, p. 24.

23.—EFFICACY OF OPIUM INJECTIONS IN CASES OF NERVOUS EXCITEMENT.

By A. Maddock, M.D.

[We think the use of opium in the form of injection too little attended to in the present day. The following case is related by Dr. Maddock.]

Mrs. R——ts, ætat 27, of a weak and nervous constitution, was delivered September 6th, of her third child; the presentation was natural, delivery quick, and unattended with any untoward symptoms. Early in the morning of the 8th, I was hastily summoned, and found her labouring under great pain in the head, and sickness, accompanied with a vacant and frightened look, turgid conjunctiva, impeded motion, and uneasiness of the limbs, imperfect speech, weak and irregular pulse. Upon inquiry of the nurse, I ascertained that my patient had been subject to "fits" in both her previous confinements, and was shown the prescriptions of the physician who formerly attended her; by which it appeared that sedatives of every kind and form had been employed, together with venesection and cupping, without any benefit being derived from them.

Under these circumstances, I immediately resorted to the opiate injections. I prescribed as follows:—

℞. Tincture of Opium, m. xviij.; Common gruel, ℥iv. Mix, and make into an injection to be administered immediately per anum, and repeated every 3 hours.

She remained in a state of insensibility and extreme excitement, alternately laughing and crying, for nearly two hours, when consciousness gradually began to return, and in six hours (two enemas having been given) she was sensible, but felt "very nervous." Notwithstanding these favourable results, I ordered the injections to be regularly continued for the next six hours.

September 9th:—Slept tolerably well last night; has had no return of the fits, does not feel "quite" so nervous, and is much improved in every respect.

Medical Times, Aug. 21, 1841, *p.* 345.

[Dupuytren is stated to have been one of the first who administered opium as an injection in cases of nervous excitement, produced by disease and by operations. Dupuytren explains the curious fact that a small quantity of opium taken into the stomach produces no effect, whilst the same quantity is very efficacious when introduced into the rectum, in this way, viz. that when administered by the rectum, the digestive powers do not interfere, and the medicine is consequently absorbed unaltered into the system.]

24.—COLICA PICTONUM TREATED WITH WARM WATER.

By John Wilson, M.D., Physician to the Middlesex Hospital.

[We all know the difficulty which frequently arises in this complaint in procuring a free evacuation from the bowels. The following case related by Dr. Wilson was relieved in a very simple and efficacious way, and will no doubt be more generally adopted. The patient, Matthew Proctor, aged 45, was a plumber and painter; his bowels were most obstinately costive for several days.]

On admission he was put into a warm bath, and when he had been in it for

some time, an elastic injecting tube was given him, with directions to employ it in trying to inject the water of the bath gradually up the intestines, and to persevere, should he feel no pain nor unpleasant sensation, till he felt a sensation of fullness of the abdomen. In this he succeeded while he continued immersed in the bath; shortly after, and before he quitted the bath, he had an evacuation of lumpy fæces. After leaving it he was purged four or five times, and relieved from the pain. The next day he had an ounce of castor oil, with m. xx. Tinct. Opii, and a sinapism to the abdomen. The third day the bath, and enema while in the bath, were repeated; after which, while he remained in the hospital, his bowels never required more than the mistura alba (sulph. mag. 3ss., carb. mag. gr. v., in mint water), two or three times a-day.

21st.—Free from pain; bowels regular; no complaint.

Medico Chirurgical Transactions, Vol. 24, p. 179.

25.—TREATMENT OF PNEUMONIA.

By Dr. Watson, Lecturer on the Practice of Medicine in King's College, London, &c.

[Blood-letting, tartarised antimony, and mercury, are stated by Dr. Watson to be the three great remedies in this dangerous disease; and this opinion accords with that of most other eminent men; for although every one may not use the tartarised antimony and mercury in the same way, yet the general principles of treatment will be found nearly to correspond. However much we depend upon bleeding in the early stages of the treatment, a time arrives when it is no longer admissible, and is even positively hurtful.]

We want some remedy, therefore, to assist the lancet, or to employ alone when the lancet can do no more; and we have two such, in *tartarized antimony* and in *mercury*. The tartar emetic plan I believe to be the best adapted to the first degree of the inflammation—that of engorgement; and the mercurial plan to the second—to that of hepatization.

I need not tell you that the tartarized antimony is not given in this disorder with the object of producing vomiting. It is a very curious thing, that although when administered in a considerable dose, its first effect is often that of exciting sickness, and perhaps purging, a repetition of the same dose is, in the majority of cases, at length borne without any farther vomiting. The stomach comes to *tolerate* the medicine, as our continental brethren say; and then its beneficial influence upon the disease is no less marked than when nausea and vomiting take place. Some patients do not vomit at all; others, the majority in fact, vomit two or three times, and then *tolerance* is established. If the sickness and purging go on, they may be checked by adding a few drops of laudanum to each dose. Dr. Thomas Davies, who had tried this remedy largely, and, as he tells us, with great success, gives the following as his own plan of administering it, and perhaps it is as good as any. After free bleeding, he begins with one third of a grain of tartar emetic in half a wineglassful of water, with a few drops of laudanum or syrup of poppies. Two doses of this strength he gives at the interval of one hour from each other. He then, if the patient does not vomit, omits the opium, but continues it if he does, doubling, however, the quantity of the tartar emetic, giving two-thirds of a grain for two successive hours; and in this way he goes on, adding a third of a grain every two hours, until he reaches two grains every hour. This last quantity he has not exceeded, and he says that he has continued it for many days without producing any injurious effect.

Under this plan of treatment, the symptoms will often undergo a marked change for the better in three or four hours. Sometimes, however, the relief is not conspicuous for twenty-four or even for thirty-six hours. He states, and this is accordant with my own experience of the remedy, that the tartar emetic always acts best when it produces no effect except upon the inflammation itself; *i. e.* when it does not produce vomiting, or purging, or a general depression of the powers of the system. This is an important practical remark, because many persons have supposed that it subdues the disease only when it previously gives rise to these effects. I consider this testimony of Dr. Davies to the power of the tartarized antimony in controlling inflammation of the lung the more valuable, because he informs us that, before he had occasion to see its admirable effects in the first stage of pneumonia, he had been in the habit of trusting to the free use of mercury, after due depletion.

When the dyspnœa has been put an end to by antimony thus exhibited, the medicine may be intermitted: and if the inflammation show any disposition to rekindle, it must be again extinguished by a repetition of the tartar emetic.

When, however, the inflammation has reached the second stage, that of solidification, mercury is more worthy of confidence, in my opinion, than tartarized antimony. And I have little or nothing to add to what I formerly said in respect to the mode in which it ought to be administered. The object of giving it is to make the gums tender; and it is expedient to do this as speedily as may be. Small doses of calomel repeated at short intervals—a grain every hour, or two grains every two hours, or three grains every three hours—combined with so much of laudanum or of opium as may be requisite to prevent it from running off by the bowels—offer the most certain way of accomplishing our object. If the bowels are irritable under the calomel, blue pill, or the hydrargyrum cum creta, may be substituted for it with advantage; and if the internal use of the mercury be any how contra-indicated, or if it appears slow in occasioning its specific effect, the linimentum hydrargyri may be rubbed in, or the strong mercurial ointment.

Many persons, I am persuaded, are saved by treatment of this kind, pushed to slight ptyalism; the effusion of lymph, tending to spoil the texture of the lung, is arrested; and the lymph already effused begins to be again absorbed: and the ease and comfort of the patient, as well as the alteration for the better of the physical sounds, attest the healing qualities of the remedy.

Med. Gazette, Oct. 15, 1841, *p.* 103.

26.—ON THE USE OF SETONS IN PARAPHLEGIA, &c.

By MARSHALL HALL, M.D., F.R.S., &c.

[Dr. Marshall Hall strongly recommends the use of setons in preference to issues, on the course of the spine in paraphlegia, and in acute or chronic local or limited inflammation of different parts, as in hepatitis or nephritis. In cases of diseases of the spinal marrow, with paraphlegia or paraphlegic spasm, setons are more especially valuable: but Dr. Hall looks upon the usual seat of application of these setons as improper. He thinks the great error committed by medical men is the applying the seton *below* the seat of the disease. "The spinal nerves proceed for some distance, from above, directly rather than obliquely, downwards, and the seat of the disease is *at* or *above* their junction (insertion or origin) with the spinal marrow."]

Bearing these two principles in mind then, viz., that ample setons afford a more efficacious counter-irritation than issues, and that they ought to be applied higher along the spinal column than has been usual, I think we have a new mode of treatment for this formidable class of diseases.

These setons should, besides, be larger than usual. They should be three-fourths of an inch in breadth, and extend through two inches in length, be inserted on the level with and above the supposed seat of the disease, (the anatomy being consulted,) and be four or six in number, two or three being instituted on each side of the spinal column. Acting on this principle, I had, five days ago, the pleasure to receive the most satisfactory account of a patient affected with paraphlegia, whom I had seen at Lohan, in Essex, in consultation with Mr. Gross.

I repeat, and beg to conclude by repeating, that I believe counter-irritation applied along the spine has failed, because it has been applied below the seat of the disease; and that, to be efficacious, it must be both more efficient in itself, and applied with greater regard to the anatomy of the spinal marrow and nerves. The precise spot for their application must be left to the well-informed practitioner. I need scarcely remind my reader, that the persistence or cessation of all reflex actions, will determine whether our remedies should be applied above or below the origin of the corda equina, above or below the last dorsal vertebra.

London and Edinburgh Monthly Journal of Medical Science, Nov. 1841, *p.* 805.

27.—ON ASPHYXIA, AND ON THE RESUSCITATION OF STILL-BORN CHILDREN.

By John Snow, Esq., M.R.C.S.

[In this paper of Mr. Snow, read before the Westminster Medical Society, the opinions of the celebrated Dr. Edwards are brought forwards respecting the relative importance of applying warmth or cold to the surface of bodies in a state of asphyxia, and especially in cases of still-born children. It may startle the generality of practitioners to be informed that the hot-bath, so commonly used in these cases, seems to be prejudicial. It may indeed keep the surface in a certain degree of heat, but, according to Dr. Edwards, this heat of the body only the more incapacitates the system to bear up against a continued state of asphyxia. Mr. Snow says:]

A consideration of great practical importance in the study of asphyxia, is the influence of the temperature of the medium in which it takes place. Dr. Edwards, of Paris, by a most extensive and beautiful set of experiments, has proved that throughout the animal kingdom, asphyxia is much more sudden at a high than at a low or moderate temperature; and that even cold-blooded animals, which will linger for hours deprived of oxygen at a low temperature, will die as quickly as mammalia or birds in water of blood heat: even fishes will die in a few seconds, or at least two minutes, in water at 100 Fahrenheit, that has been deprived of its air by boiling, although this temperature would not injure them with sufficient air. He found that new-born mammiferous animals die most slowly in water at about 60 degrees, which is ordinary cold water, and that they die much more quickly as the water approaches blood heat. Dr. Edwards advises that persons in the state of suspended animation should, amongst other measures, be exposed to the cool air; and that the application of heat should be avoided, unless indeed just a momentary application, to endeavour to arouse sensibility. The Royal Humane Society, however, directs the application of warmth in all practicable ways,

not only as an auxiliary to artificial respiration, but even to commence with, if the means for the latter are not in readiness; and most authors, I believe, coincide with the views of the Humane Society. Dr. Edwards considers it is by its effects on the nervous system, and through that on the heart, that a high temperature produce its effects. I think that, although the nervous system may be affected, and is probably the channel of its impression, yet that the deleterious effects of an elevated temperature, when respiration is stopped, depend on its stimulating the capillary circulation of the system, and thus promoting the de-oxygenation of the blood, that change which is antagonistic of respiration, which rules its extent under all circumstances, and which, in fact, constitutes the necessity for having a respiration. But, whatever view we take of this point, the fact of the influence of temperature on asphyxia proves that the application of heat ought to be avoided until respiration is thoroughly established, when it will, no doubt be a useful auxiliary to restore sensibility and renovate the patient.

The number of children that die of asphyxia at the time of birth is very considerable. Writers on midwifery have stated that one-twentieth of the children brought forth are still born, and of these a large proportion are asphyxiated, from various causes, often at the very moment of birth. The first measures that are generally and very properly adopted, when a child is born in state of suspended animation, are to admit the cool air to its skin, to dash a few drops of cold water on it, and use similar means to arouse sensibility, more especially that of the nerves of respiration. From the great vascularity and sensibility of the skin, and the thinness of the cuticle of new-born children, great benefit may be expected from the access of air to the surface of the body. Immersion in warm water is sometimes had recourse to, and I have seen it completely successful in two or three instances, after the means just enumerated had failed; but this is a dangerous measure, one which, if it do not succeed, will quickly extinguish any possibility of recovery which may exist, as we have already seen. The great object in this, as in every case of asphyxia, is to establish respiration; and, if the patient cannot be roused to perform natural breathing, artificial respiration must be had recourse to as quickly as possible.

Medical Gazette, Nov. 5, 1841, *p.* 224.

28.—FORMULA FOR OLEUM CANTHARIDIS AND EMPLASTRUM CANTHARIDIS.

Since the reading of Mr. Redwood's paper on Vesicating Applications, we have been favoured with these forms by Mr. Joseph Smith, who states tha he has found the preparations efficacious, having made them by way of experiment:

Oleum Cantharidis.—℞. Pulv. Cantharidis, ℥iv.; Ol. Olivæ, ℥viii. Macera cum leni calore per dies quatuor-decem, subinde agitans, tunc exprime.

Emplastrum Cantharidis.—℞. Ol. Cantharidis, ℥iv.; Ceræ Flavæ (vel albæ) ℥iv.; Resinæ, ℥ss. M. ft. Emplastrum s. a.—*Phar. Trans.* Oct.

Medical Gazette, Nov. 5, 1841, *p.* 240

29. ON THE PREPARATION OF VINUM FERRI.

By M. Donovan, Esq.

The virtues of this preparation, the first metallic medicine on record, have been known to mankind since the time of the Argonautic expedition: its medicinal character has therefore stood the test of experience during 3100 years,—and it is now more in use than it has been for a long period. The will of the profession retains it, although it is expunged from the three British Pharmacopœias; and a medicine that has withstood such vicissitudes cannot be destitute of virtue. Why, then, is it expunged? why is there so much difference of opinion? The answer is, because there are such differences in its strength, and in the modes of preparation.

I have, by a very simple process, removed all uncertainty from this preparation, and now obtain it always of the same strength, containing an effective quantity of iron, of an agreeable flavour, and still possessing all the aroma of the wine. The process is:—Take of the best hock one pint; common rust of iron of the shops, well levigated, two ounces. Introduce both into a matrass, which plunge into a water bath maintained at the temperature of 100. Constantly agitate the matrass for an hour; then remove it from the water, and the next day filter. The colour of this vinum ferri is a very deep greenish brown, almost black when the volume is great; its taste is ferruginous, agreeably and highly vinous; it produces a pleasant warmth in the stomach, and never sickens. In its effects it must be tonic, diuretic, emmenagogue, anthelmintic, and carminative. It does not, in moderate doses, excite. No other wine than hock will afford a preparation possessing these virtues. The dose for an adult may be three or four drachms thrice a-day; in smaller doses it is of little use. If it is to be exhibited in combination with a bitter, it agrees well with colombo or gentian. By this method, in one day, we obtain a far better preparation than is procurable by the processes of the pharmacopœias in two months. The iron exists in it chiefly in the state of protoxide.—*Dublin Medical Press, June* 23, 1841. *Quoted in Brit. and For. Med. Rev. Oct.*, 1841.

London and Edinburgh Monthly Journal of Medical Science, Nov., 1841, *p.* 840.

30.—TREATMENT OF ACUTE RHEUMATISM WITH LARGE DOSES OF NITRATE OF POTASS.

Dr. Brocklesby seems to have been the first to point out the curative efficacy of saltpetre in the treatment of acute articular rheumatism. In his economical and medical observations, published in 1764, he has explained the practice which he found to be most useful. After taking a free bleeding from the arm, when the patient is young and robust, he orders a very copious allowance of warm gruel, in which from one to two drachms of the salt have been dissolved; the patient is to take large draughts of this drink at short intervals. He has given as much as from six to ten drachms of the nitrate, dissolved in from three to six quarts of the gruel, during the course of twenty four hours. This mode of treatment rarely fails in producing a great relief of all the symptoms in two or three days; and very often a complete cure of the disease is effected, without having recourse to any other mode of treatment, within a week from commencing the treatment. The nitred diluent usually causes very profuse perspiration, and generally also acts upon the bowels; if it does not, an aperient enema should be given occasionally.

It is to be observed that Dr. Brocklesby's remarks are drawn from prac-

tice in military hospitals, where the patients are usually robust and healthy.

In 1772, Dr. Macbride, in his introduction to the theory and practice of medicine, recommended the same mode of treatment. Two years later Dr. William White (Observations on the Use of Antimonial Preparations) makes the following remarks on the effects of large doses of saltpetre:

"The employment of this salt, after blood-letting, is very useful in the treatment of acute rheumatism; but it must be given to the extent of an ounce in the twenty-four hours, if the vascular irritation be considerable; small doses are of little service. In many cases of chronic rheumatism also, it is of great efficacy. Administered in the dose of from one ounce to an ounce and a half in twenty four hours, it often cures the most severe cases of the disease, which may have resisted every other mode of treatment."

The use of the nitrate, notwithstanding such decided recommendations, fell into neglect, and although noticed by M. Bosquillon in his translation of Cullen, it was not till 1832 when it was again brought to notice by M. Gendrin. One of his *internes* at the Beaujon Hospital, M. Aran, has brought together the reports of a dozen cases treated with the nitrate of potash in full doses, dissolved in copious draughts of a mild demulcent diluent, very nearly according to the directions of Dr. Brocklesby. The dose of the salt varied from four to eight or ten drachms in the course of twenty-four hours. The average duration of the treatment seems to have been about a week. In many of the cases there were well-marked symptoms indicating disease of the heart: these symptoms usually subsided with the suffering in the joints.

The *modus operandi* of the remedy was usually as a powerful diuretic and diaphoretic: occasionally too it acted on the bowels.—*Journal des Connoissances Medico-Chirurgicales.*

[The Editors of the Medico-Chirurgical Review remark on this subject:]

We are generally pleased with the *reproduction* of any of the remedies which were much used and recommended by the sound practical physicians of the last century, as most assuredly these gentlemen were much less influenced by pathological theories in their treatment of disease than most of the writers of modern times. That full doses of the nitrate of potash should act beneficially in acute rheumatism, we are quite prepared to expect; for it will be found that all powerful evacuent remedies, more especially those which act on the skin and kidneys, are more or less useful in this disease. One of the most generally useful of all remedies, in a large proportion of rheumatic cases, is the mistura guaiaci of the London Pharmacopœia; and it is observed that it is usually most beneficial when it acts on the bowels and kidneys. The vinum colchici, or the Dover's powder, may often be added with much advantage to it. Moderate blood-letting, and the exhibition of calomel at bed time, with or without opium, should seldom be neglected at the same time.

Medico-Chirurgical Review, Oct. 1841, *p.* 585.

31.—ON THE HYDROCEPHALOID DISEASE.

By Dr. Marshall Hall, F.R.S. L. & E., &c.

Dr. Hall fairly vindicates his claim to originality in the description of this complaint.

The causes are thus mentioned. The exhaustion on which it principally depends, has its origin, in early infancy, chiefly in diarrhœa, or catharsis; in the later periods of infancy, in the loss of blood, with or without the relaxed or evacuated condition of the bowels. The state of diarrhœa has generally

depended upon improper food, or intestinal irritation. It has very frequently succeeded to weaning, or to other changes in the diet, or to constipation. The catharsis has followed the administration of an aperient medicine, which, at such a moment of disorder of the stomach and bowels, is apt to act excessively. The exhaustion from loss of blood generally follows the inappropriate or undue application of leeches, or the use of the lancet. Dr. Hall, indeed, gives an useful caution. Of the whole number, he says, of fatal cases of disease in infancy, a great proportion occur from this inappropriate or undue application of exhausting remedies. This observation may have a salutary effect in checking the ardour of many young practitioners, who are apt to think that if they have only bled, and purged, and given calomel enough, they have done their duty; when, in fact, in subduing a former, they have excited a new disease, which they have not understood, and which has led to the fatal result.

Dr. Hall divides the affection into two stages—the first that of irritability, the second that of torpor.

In the first stage, he goes on to observe, the infant becomes irritable, restless, feverish; the face flushed, the surface hot, and the pulse frequent; there is an undue sensitiveness of the nerves of feeling, and the little patient starts on being touched, or from any sudden noise; there are sighing and moaning during sleep, and screaming: the bowels are flatulent and loose, and the evacuations are mucous and disordered.

If, through an erroneous notion as to the nature of this affection, nourishment and cordials be not given, or if the diarrhœa continue, either spontaneously, or from the administration of medicine, the exhaustion which ensues is apt to lead to a very different train of symptoms. The countenance becomes pale, and the cheeks cool or cold; the eyelids are half closed, the eyes are unfixed, and unattracted by any object placed before them; the pupils unmoved on the approach of light; the breathing, from being quick, becomes irregular and affected by sighs; the voice becomes husky, and there is sometimes a husky, teasing cough; and eventually, if the strength of the little patient continue to decline, there is a crepitus or rattling in the breathing; the evacuations are usually green; the feet are apt to be cold.

A similar train of symptoms occurs in other cases, in which the strength of the little patient has been subdued and the vascular system exhausted by the abstraction of blood. In both cases, leeches are sometimes again applied to subdue this new form of disease, under the erroneous notion of a primary cerebral affection. This measure infallibly plunges the little patient into imminent, if not irretrievable danger. Sometimes the sinking state goes on in spite of every appropriate remedy. Stimuli, if efficacious, reduce the frequency of the pulse, and restore the wonted warmth, colour, expression, and smiles to the countenance.

Dr. Hall particularly insists on a close observation of the condition of the cheeks, in regard to colour and warmth. That condition, he observes, may be considered as the pulse of very young infants indicating the degree of remaining power, or of exhaustion. In the present case, especially, there is no symptom so important, so distinctive. It is from the condition of the cheeks, in conjunction with a due consideration of the *history*, that the diagnosis of this morbid state, and the indication of the appropriate remedies, are chiefly to be deduced. The general surface, and especially the hands and feet, also afford important sources of information as to the condition of the nervous or vital powers. Next to these, the degree of frequency of the pulse, and the character of the breathing, are points of the greatest importance; during the stage of irritability, the breathing is quick; during that of torpor, it is slower, irregular suspirious, and, finally, crepitous; the pulse changes in its beat,

from being full becoming smaller, but retaining, perhaps, its former frequency.

We should be especially upon our guard, not to mistake the stupor, or coma, into which the state of irritability is apt to subside, for the natural sleep, and for an indication of returning health. The pallor and coldness of the cheeks, the half-closed eye-lid, and the irregular breathing, will sufficiently distinguish the two cases.

The following is Dr. Hall's methodus medendi. The remedies, he says, for morbid affection are such as will check the diarrhœa, and afterwards regulate the bowels, and restore and sustain the strength of the little patient. With the first object, it may be necessary to give the tinctura opii, and chalk, and afterwards, the pilula hydrargyri, rhubarb, and magnesia; with the second, sal volatile, but especially brandy; and proper nourishment, are to be given according to circumstances. But in this, as in many cases of infantile disorders, the milk of a young and healthy nurse is the remedy of most importance; in the absence of which, ass's milk may be tried, but certainly not with the same confident hope of benefit.

Five or ten drops of the sal volatile may be given every three or four hours; and twice or thrice in the interval, five or ten drops of brandy may be given in arrow-root done in water. As the diarrhœa and appearances of exhaustion subside, these remedies are to be subtracted, the bowels are to be watched and regulated, and the strength is to be continually sustained by the nurse's or ass's milk. The brandy has sometimes appeared to induce pain; sal volatile is then to be substituted for it; a dose of magnesia has also appeared to do good.

For the state of irritability, the warm bath is a remedy of great efficacy. For the coma, a small blister, or sinapism, should be applied to the nape of the neck. A state of exhaustion of the general system, as have I observed elesewhere, by no means preclude the possibility of real congestion of the brain. It rather implies it. In extreme cases, there are not only the symptoms of cerebral congestion during life, but effusion of serum into the ventricles of the brain is found on examination after death.

In every case the extremities are to be kept warm by flannel, and the circulation should be promoted in them by assiduous frictions. It is of the utmost importance carefully to avoid putting the little patient into the erect posture. A free current of air is also a restorative of the greatest efficacy.

Medico Chirurgical Review, Oct., 1841, *p.* 322.

32.—BELLADONNA IN CASES OF ILEUS.

By M. Becker.

M. Becker has employed an injection of belladonna with the best effects in a case of ileus. A woman, forty-eight years of age, was seized, without any apparent cause, with constipation and vomiting; the ejected matter became gradually more foul, and at length no fecal matter was thrown up; this state had continued for five days, when M. Becker ordered a lavement, containing four scruples of the belladonna root. The pain of the abdomen, vomiting, &c., soon ceased, and in half an hour the woman passed a stool, with a good deal of blood in it. No narcotic effects were produced by the remedy.—*Gaz. Med.*

Provincial Medical and Surgical Journal, May 15, 1841, *p.* 130.

33.—CONTRACTION OF THE FINGERS CURED BY ELECTRICITY.

By M. Breschet.

C. Leclerc, servant, 19 years of age, was admitted into the Hotel Dieu, on the 5th June, 1838, for a burn on the leg. She was ordered to be bled; the *externe* made two incisions, having failed to obtain blood the first time; the patient immediately complained of numbness of the arm, which rapidly increased, and at the same time the fingers became so firmly contracted, that the dresser had great difficulty in withdrawing the rooler which the patient held in the hand. M. Breschet was sent for at once, but thought lightly of the matter: the contraction of the fingers, however, continued in so great a degree, that it was found necessary to place something in the palm of the hand to prevent the nails from wounding it. Every means were used to overcome this contraction of the flexor muscles, without avail: a splint was tried for fourteen days, but as soon as it was removed, the fingers resumed at once their old position; in a word, various remedies were tried for six months, but every thing failed. At length M. Breschet resolved on trying the galvanic battery.

On the 20th of December a needle was passed into the extensor muscles, near the elbow, and another into the back of the wrist; twenty-five and thirty pair of plates were employed, but without effect; the contraction seemed even worse. The needles were now withdrawn and placed, one near the origin of the flexors, the other in the palmor surface of the annular ligament of the wrist; the same strength of pile was used, and to the great surprise of all present, the fingers were gradually extended under the influence of the galvanic shocks; the thumb alone remained flexed. Galvanism was regularly employed every day; on the fourth, the woman could use her index and middle finger freely; on the seventh, the ring-finger became free. Unfortunately the woman now left the hospital, and nothing more was heard of her until she came, of her own accord, in the month of July, 1839, to announce that she was quite well. She informed us that for a short time after her departure from the hospital, she had the use of her finger, but the contraction soon returned again. She consulted a medical man, and told him the means from which she received so much benefit before. He tried galvanism also, and after the twelfth application a perfect cure was obtained. She has not suffered any relapse since that time.—*Journal des Con. Med.*

There are two remarkable points in the history of this case; the sudden appearance of contraction after a wound made by the lancet; and the curious fact that galvanism, instead of increasing the muscular action, had a contrary effect.

Provincial Medical and Surgical Journal, May 15, 1841, *p.* 139.

34.—ACUPUNCTURE OF THE HEART IN APPARENT DEATH.

By Dr. A. Carraro.

Dr. Antonio Carraro informs us, in the *Annali Universali di Medicinia*, that he has successfully used *acupuncture* in cases of apparent death. He performed the following experiment before several individuals. An eight days' old cat was kept under water till all motion ceased, when the animal was taken out; the tongue protruded from the mouth and was covered with froth. The extremities were stiff, there was no pulsation of the heart, and every other sign of life was absent. On being cast into the water for the second time it sank to the bottom. It was then taken out, exposed to the

sun, and dried with warm towels. Abdominal frictions were ineffectually practised, and it was not until the lapse of three-quarters of an hour after the disappearance of the signs of life, that acupuncture was had recourse to. A needle was pushed onwards through the heart, until its point rested on the vertebral column. Five minutes had hardly elapsed, when the needle was observed to move, which indicated a movement of the heart. This motion increased, which was soon followed by movements of the upper extremities, then respiration, crying, and lastly movements of the whole body. The animal continued to live and suckled its mother.

This same experiment was frequently repeated with similar effects, from which Dr. Carraro concludes, that puncture of the heart is not only a useful but a safe operation. He concludes his remarks by trusting that his method may be tried in cases of asphyxia.—*Froriep's Notizen*, &c., vol. xv.

Provincial Medical and Surgical Journal, May 15, 1841, *p.* 140.

35—ON LARGE DOSES OF IODIDE OF POTASSIUM IN THE LAST STAGE OF ACUTE HYDROCEPHALUS.

By Dr. Roeser.

Dr. Roeser advocates the employment of the iodide of potassium in large doses in cases where the ordinary remedies have failed, where paralysis has already occurred, and death appears impending. It has been administered in earlier stages of the disease, and in small doses, by other physicians. His prescription for a child two years and a half old, was:—

℞. Hydriod. Potassæ 3j.; Aquæ Distill. ℥ss. Misce.

Thirty drops to be given every hour in a glass of water.

This was continued for a week, and then for four days more half the quantity was given. When the use of the medicine was begun, the child had been affected six days with symptoms of hydrocephalus, for which leeches were applied to the temples, cold to the head, and calomel was given in large and frequently repeated doses, without any amendment. On February 12, 1840, the child lay insensible, with pupils fixed and dilated, complete paralysis of the right side, and frequent automatic movement of the left leg and arm. The face was flushed, body bathed in perspiration, the pulse frequent, and deglutition was accomplished with difficulty. The iodide of potassium was now given as above, and within twenty-four hours a drachm of the medicine had been administered without any perceptible change. On the 14th, it was noticed that the pupils, before much dilated, had become contracted; on the 15th, the plaintive, hydrocephalic cry was less frequent, the pupils were neither contracted nor dilated, and the bowels had acted copiously. On the 21st, the child gave evident signs of consciousness, the pupils acted regularly, and the face had an air of cheerfulness. The patient began to move the left arm and left leg, which had lain motionless for a week, when the automatic movements ceased. Paralysis of the right side, however, continued until the 23d. The iodide of potassium was discontinued on February 21st. A crop of boils now formed on various parts of the body, notwithstanding which, the child continued to recover. In May, it had regained its flesh, was cheerful, and very intelligent.—*Hufeland's Journal, April*, 1840.

Lond. and Edin. Monthly Journal of Med. Science, Oct. 1841, *p.* 748.

36.—TREATMENT OF CHOREA.

By Dr. Hensis Green, Lecturer on the Diseases of Children in the Hunterian School of Medicine.

The remedies which I have seen usually employed at the Children's Hospital in the treatment of chorea, are, 1st, sulphureous baths, 2nd, cold baths, and 3rd, the oxide of zinc. The sulphureous baths are composed by the addition of four oz. of the sulphuret of potass to a common bath; the patient may be kept in the bath from half an hour to an hour and a half, and the bath may be repeated once or twice daily, according to circumstances. The use of fifteen to twenty baths, is in most cases sufficient to remove all symptoms of the disease. This method was introduced into practice several years ago, at the Children's Hospital, Paris, by M. Baudelocque, by whom I have seen it employed with very great success. Thus from the month of September 1832 to January 1833, fourteen girls, labouring under chorea, were treated exclusively with the sulphur baths; of these fourteen, thirteen were perfectly cured, and the mean duration of the patients' sojourn in the hospital was only twenty-four days. Some of the cases which I have just related were extremely severe, yet they were cured within twenty-one days; in one case, ninety-five leeches (in three applications) had been placed along the spine without producing any benefit, when the sulphur baths were employed, and effected a cure in fourteen days.

There are few diseases in which so great a variety of remedial means have been tried as in chorea. Dr. Babington, in an interesting paper, contained in the last number (xiii.) of Guy's Hospital Reports, speaks very favourably of the sulphate of zinc. The French Physicians prefer the oxide. Generally speaking, tonic remedies are those on which most reliance should be placed, but I am inclined to think that electricity and the sulphur baths will be found to be the most powerful means that we possess.

Provincial Med. and Surgical Journal, Oct. 30, 1841, *p.* 89.

37.—ON LOCAL BATHS.

By M. Mayor, of Lausanne.

M. Mayor, of Lausanne, has lately presented to the Royal Academy of Sciences in Paris, an apparatus for bathing any limb, or any part of one, separately, and in any possible position. This apparatus consists of a hollow cylinder of copper, the two extremeties of which are provided with caoutchouc discs, each of which has at its centre a large opening through which the limb is introduced. Varied according to the parts to which they are to be applied, these apparatus form a kind of sleeves, or gloves, or boots, according as they have to enclose the arm, the hand, or the foot and leg.

This kind of portable bath has, M. Mayor states, numerous advantages. It is cheap. It permits the limbs to be bathed without obliging the patients to keep in an irksome position. When, for instance, the elbow-joint is to be bathed, two pieces corresponding to the arm and the forearm may be articulated together, [by caoutchouc tube, we suppose,] so as to be capable of movement on each other, and the patient suspending the apparatus in a sling may walk about, and even make use of the movement of flexion and extension of his arm. Only a small quantity of water is needed, and this advantage, though unimportant in the case of simple baths, is considerable when medicated baths are ordered. The liquid will preserve its temperature

a long time, and this, added to the convenience of employing it, will enable the bath to be used longer than is customary. The fluid may be removed or added to by small openings made above and below through the wall of the cylinder. The apparatus may also be used for constant irrigation by making one of these openings communicate with a tube conveying water to the cylinder, and the other one to carry it off.

Medical Gazette, July 30, 1841, *p.* 736.

38.—ON CROUP AND ITS CURE.

By Dr. GRAHL, of Hamburg.

Dr. Grahl calls the attention to the employment of arm-baths in croup, the use of which has already been advocated by Dr. Dorfmuller, in the fifty-first volume of Rust's Magazine. They are indicated in the commencement of the stage of exudation, the existence of which is rendered evident by the difficult respiration. He regards the employment of leeches in this stage as of no avail, and the administration of sulphate of copper and emetics as likely to increase the exudation. His recommendation is, that the arms of the patient be placed in a vessel sufficiently deep to admit them to a hand's breadth above the elbow-joint and filled with water as hot as it can be borne. A cloth should now be thrown over the head of the patient, which falling down around the edges of the bath retains the vapour, and this the patient should be allowed to respire for a quarter of an hour together, repeating it at short intervals. The first application usually induces some degree of moisture in the Shneiderian membrane, and diminishes the dyspnœa. As it is repeated the cough usually loses its hoarse tone, and the patient expectorates the exuded lymph. In cases where the symptoms are extremely urgent, calomel in large doses should be given and a blister applied to the throat, but in the great majority of cases the employment of the arm-bath is all that is necessary.

British and Foreign Medical Review, July, 1841, *p.* 246.

39.—ON THE IODIDE OF IRON.

By M. DONOVAN, Esq., Dublin.

Considering the statements which have been made in other countries of the excellent medical effects of proto-iodide of iron, it is singular that it is not more extensively used in the British Isles, and that its exhibition is not more frequently attended with success. I believe the cause of failure, is a bad method of preparation, conservation, and exhibition.

It was introduced in the cure of phthisis, by Dr. Dupasquier, physician to the Hotel-Dieu, who found it "a remedy infinitely more useful than all those put together which have been employed to the present hour in that disease." Sometimes, he admits, it has no action, or only an ephemeral one; and how could it be otherwise in cases where the tissues are completely destroyed by disorganization. At other times it considerably ameliorates all the symptoms, gives hope to the patient, and enables him to arrive at the final catastrophe with less suffering. Very often it produces temporary cures; "but sometimes it heals and cicatrizes perfectly and permanently those cavities so easily discovered by auscultation, amongst persons arrived at the last degree of marasmus, and who afterwards resume their original *enbonpoint*, and all the characters of health."

Unfortunately the proto-iodide of iron, possessed as it is of such excellent

qualities, is one of the most easily alterable medicines we possess, and it is scarcely ever found in commerce in a condition to support the character which it has acquired in other countries.

"The proto-iodide of iron generally used," says Dr. Dupasquier, "is a medicine totally different both in its chemical nature and its therapeutic action, from the proto-iodide which I use: the former is not a proto-iodide, although so named in all the formulæ, but a mixture: the composition varies according to the greater or less precautions employed in its preparation, and conservation. When dissolved in water, the liquid, instead of being colourless, or scarcely coloured green, is brown, more or less deep, according as the iodide has been more or less exposed to the air. The smell and taste indicate the presence of a notable quantity of free iodine. A properly prepared solution should have no smell, nor more taste than the other salts of iron. It should have no apparent action on amidine, and with yellow cyanide of potassium it should afford a white precipitate; but with both of these reagents the solution of common proto-iodide of iron affords a blue powder; in the latter case a very deep blue."

"In fine, the common iodide of iron of apothecaries' shops," says Dupasquier, "named in the pharmacopœias and formularies proto-iodide, is a mixture, in very variable proportions, of free iodine, periodide of iron, mixed with some proto-iodide not yet entirely decomposed, and sesquioxide of iron."

A solution of proto-iodide of iron, kept even for a few days, lets fall this sesquioxide, or, as Dumas believes, an insoluble compound of iodide and peroxide of iron.

The preceding observations suffice to show that the iodide of iron generally employed is a mixture variable in composition, and therefore variable in therapeutic efficacy. Hence it differs essentially from the true proto-iodide of iron, the administration of which in pulmonary consumption is followed by such advantageous results. "Clinical observation has convinced me," says Dupasquier, "that the least alteration in the colourless solution of the proto-iodide is sufficient to diminish its medical properties, and to communicate to it an irritating action, which totally changes the effects of it."

If this be so, should it create surprise that this remedy so often fails, when we recollect the circumstances under which, in this country, it is always exhibited. In the original preparation it is half spoiled, for it should never be boiled down to a solid substance, but should be preserved as a colourless liquid. As soon as it has assumed even a green colour, injury is done; but when it is brown it is unfit for use.

The prescriber completes the destruction of the compound when he directs it to be dissolved in a liquid, or made into pills. The apothecary intends every thing that is good when he introduces a coil of iron wire into the liquid, or incloses the pills in a bottle: it is all in vain; oxygen will be absorbed, and the proto-iodide will be spoiled or greatly injured.

Dr. Dupasquier, to remedy these defects, has contrived several formulæ for the exhibition of this substance, founded on the property which saccharine and gummy matters possess of arresting the progress of oxidation in the salts and oxide of iron. He gives the following process for preparing the original solution of the iodide, and from this he forms a syrup, a gaseous water, a marmalade, a pill, a tablette, a jelly, and a lavement, in all of which are methods adopted for preserving the iodide unaltered. The syrup and pills are those which appear more congenial to the habits of physicians of this country: and I shall accordingly extract the formulæ of both. The following is the normal solution of Dupasquier:

Take of Iodine	15.12 grains.
Iron filings	30.23
Distilled water	120.89

Introduce the whole into a small matrass, which hold plunged during eight or ten minutes in water heated to about 167° F., so that no portion of the iodine shall be volatilised. Agitate the mixture frequently. At first the liquid becomes brown, but soon becomes perfectly colourless, or at most rctains a nearly imperceptible green hue. This preparation ought to be extemporaneous, for it would be a vain attempt topreserve it unaltered for one hour, even in ground-stopple-bottles, and although metallic iron were present, owing to the decomposition of the water. From this Dr. Dupasquier prepares the syrupus proto-iodidi ferri.

Take of the foregoing solution 60½ Troy grains.

Syrup of gum arabic, colourless and thick, 6.3 Troy ounces weight.

Syrup of orange-flowers, 1.575 Troy ounce weight.

Mix perfectly by agitation during a few moments. It is indispensable that the syrups be colourless, so that the physician may have ocular proof that the medicine is not altered or injured. They shoud have more than usual consistence, in order that the addition to the normal solution shall not impart such fluidity as would facilitate the alteration of the ferruginous salt by contact of air.

In this formula the proto-iodide is preserved in a state of perfection for at least a month—a matter of consequence to patients residing in the country.

The total quantity of the above syrup is eight ounces by weight, the total quantity of proto-iodide being eight grains, or a grain to every ounce *weight* of syrup—that is, every table spoonful of the syrup will contain two-thirds of a grain of proto-iodide of iron. Considering the greater activity of the iodide prepared as directed by Dr. Dupasquier, the quantity contained in a table-spoonful of the syrup, may be quite a sufficient dose, but it may be made to any strength.

The following is the formula for the pilulæ proto-iodidi ferri:

Take of Iodine	. . . . .	121 grains.
Iron	. . . . .	242
Distilled water	. . . . .	378

Proceed with these to form a normal solution as before; filter, and pour the solution into an untinned iron vessel; add Narbonne honey, 302 grains; evaporate rapidly, until a great part of the original water be dissipated, and a syrupy consistence shall be attained; then add at intervals, continually agitating with an iron spatula, powder of gum tragacanth 184 grains. Form a mass, and divide it into 200 pills. Each pill will contain almost exactly three-quarters of a grain of proto-iodide of iron. These pills remain a long time unaltered. Dr. Dupasquier says that they may be used in place of the pills of Vallet or those of Blaud in the cure of chlorosis.

The facts stated in Dupasquier's essay are certainly worthy of attentive consideration. The form of syrup seems best adapted for patients labouring under phthisis for obvious reasons. If this preparation has effected the cures related in various publications by Dupasquier, or has even afforded so much relief as is reported, it is an invaluable medicine. At all events it deserves a trial in this new form of exhibition, for the old one afforded a preparation, as Dupasquier declares, not only totally different, but of far inferior efficacy.

Dublin Medical Press, Sept. 22, 1841, *p.* 189.

40.—HINTS FOR THE ADMINISTRATION OF IODINE.

By Dr. Mojsisovits, of Vienna.

Dr. Mojsisovitz, of Vienna, has contributed an elaborate paper to the Medicinische Jahrbucher, on the administration of iodine and its various

preparations, in which he has pointed out certain precautions which are probably not generally known, and the ignorance of which may account for the unsatisfactory results so often derived from their use.

As the feculent matters decompose the preparations of iodine, we find this substance in the state of ioduret of starch, in the stools of those who eat bread, potatoes, rice, gruel, and vegetables, while taking the medicine. It is therefore necessary to interdict the use of every sort of food containing fecula to patients to whom iodine is given. It is probably owing to a decomposition of this kind having taken place, that we are to explain the inert effects of those enormous doses of the medicine which have been exhibited by some physicians, as Dr. Elliotson, Dr. Buchanan, of Glasgow, and Professor Forget, of Strasbourg. It is rather a curious circumstance that these gentlemen should not have detected traces of the ioduret of starch in the feculent matters of their patients, because Dr. M. informs us that he has never failed to discover it in the stools of such as eat farinaceous substances, while they were taking the medicine.

According to the experience of our author, the use of saline baths greatly promotes the action of iodine on the system. He has also reason to believe that the activity of its operation is a good deal influenced by the condition of the weather at the time. When the air is clear and dry, it seemed to have most effect, and more especially when there was a tendency to inflammatory complaints: whereas, on the other hand, its action seemed to be almost null during the endemic prevalence of small-pox, puerperal fever, and diarrhœa.

The crisis, which iodine has a tendency to provoke, are salivation, and a cutaneous eruption like scarlatina or miliaria; the secretion of the urine is usually the more abundant in proportion as the diet of the patient is kept low and restricted.

Dr. M. prefers the hydriodate of potash, and the proto and deuto-iodurets of mercury, to either pure iodine or to any other of its preparations. He regards the tincture of iodine as one of the very worst formulæ that can be used; it is more likely he says, to cause a wasting of the testicles or mammæ, hæmoptysis, palpitations of the heart, &c., than any of its salts.

The dose of the hydriodate which he recommends for adults is about fifteen grains dissolved in distilled water, in the course of the day.

If there be any open ulcers, they should be kept wetted with a solution of the hydriodate; but if the local affection be a tumour, then he recommends that it should be well rubbed with the ointment composed of 2 parts of the proto-ioduret of mercury and 24 of lard.

The disease in which Dr. M. has used iodine with advantage are, œzena, ulceration of the tongue, palate, &c., various forms of obstinate cutaneous disease, and of secondary syphilis. white swelling, and other maladies of the joints, periostisis, tumefaction of the lymphatic glands, scrofulous induration of the subcutaneous cellular tissue, and many of the other kinds of strumous disease.

Medico-Chirurgical Review, Oct. 1841, *p.* 510.

41.—MODE OF TREATING ITCH AT BERLIN.

By Dr. Hauck.

The treatment of itch has lately been made the subject of extensive experimental observation in the Berlin hospitals, and it is satisfactory to learn that a slight modification of what is termed the English method, has been found in every respect superior to any other that was adopted, accomplishing, as it

does, all the desirable objects of curing the disease quickly, certainly, and economically.

The remedy employed was the sulphur and soap liniment of the Prussian Military Pharmacopœia, composed of one part of flowers of sulphur, and two parts of soap mixed with sufficient hot water to make them into a soft ointment. The patients after a warm bath of soap and water had been applied, were placed undressed in a chamber, kept constantly at a temperature of 95° Fah., and well rubbed with the ointment over all the parts where the eruption had appeared three times a day, and then made to sweat profusely by putting them into warm beds. This system was continued for three days and nights; on the morning of the fourth, each patient had a warm bath, and then if not cured, was provided with clean bed and body-linen, and put in a ward of ordinary temperature, in which the suspicious parts were still rubbed with the ointment, and a warm bath taken every other day. In general, no internal medicines were given; but the diet allowed was reduced to a fourth portion, and water only given to drink.

In this manner, with but one short interval, 1981 were treated and cured between September, 1839, and February, 1840, making the total number of days of treatment 15,890, which gives on the average eight days and a small fraction for the cure of each patient, and for the expense of each about two dollars. The exact result was, that—In three days there were cured 42, in four days 161, in five days 333, in six days 376, in seven days 207, and in more than seven days 589.

The treatment of these last was prolonged by many circumstances which can hardly cast discredit on the remedies. In many among them the itch was soon cured, but they remained under treatment for the ulcers which had come on from long neglect of it, or were kept in the hospital till there was no chance of the ulcers communicating the disease. Others among them after being cured of the skin-disease had to be treated for other affections, such as ophthalmia, fever, &c.; and others again had their cure delayed by an obstinate refusal to adopt all accessory treatment. And in addition to these causes giving rise to an apparent increase of the length of time necessary for the cure of the disease, there were some others dependent on the management of the hospitals, and other circumstances quite foreign to the treatment adopted, but which, had they not existed, would have permitted the average number of days of treatment to have been stated much lower.

In the whole 15 months there occurred only 8 cases of relapse, less that is than half per cent of the cases treated; and among these there was, in many, good reason to suspect a fresh infection. The other cases in which there appeared to be a relapse were in fact only examples of eczema resulting from the stimulus of the skin by the sulphur. In no case did the treatment give rise to any general disorder, or to the inflammations and congestions which some have described as resulting from it.

British and Foreign Medical Review, July, 1841, *p.* 254.

42.—LEAVES OF THE WALNUT IN SCROFULA.

By M. Negrier, Professor at the School of Angers.

M. Negrier, has recently published an interesting memoir on the use of walnut leaves in scrofula, which he regards, after numerous experiments, as one of the best antiscrofulous remedies that we possess.

M. Negrier, as well as several other medical men at Angers, had been long in the habit of employing a decoction of walnut leaves as a lotion for scrofulous sores, &c., when he was appointed in 1834, physician to the asy-

lum for children abandoned by their parents; many of these unfortunate creatures suffered from scrofula. Bitters and the usual antiscrofulous remedies were tried with little benefit. A few of the ulcers closed up in May, but re-opened in November, and amongst twenty children, scarcely two cases of cure could be cited at the age of puberty. The author now resolved on trying the leaves of the walnut-tree extensively: there were at the time seventeen scrofulous children in the establishment; nine were affected with swelling and caries of the bones; seven with scrofulous glands, in a state of ulceration; one had numerous scrofulous glands, but unbroken, about the neck, with very severe strumous ophthalmia. Each patient took, daily, two or three cups of an infusion of fresh walnut leaves, sweetened with a little honey; also a pill, morning and evening, containing four grains of the extract, or an equivalent syrup. The sores were all washed with a strong decoction of the leaves, and covered with lint moistened with it. The regimen was not altered. The treatment was commenced in spring. Ten days had scarcely passed over, when the nurses remarked that the children had become more cheerful and noisy, they ate with better appetite, and a gradual improvement of the general health took place.

The greater number of the children had suffered under scrofulous disease for two years, and a few for six, eight, or ten years. After two months' treatment three patients were cured, and ten evidently improved: four obtained no benefit. After six months, there were seven cured, five considerably improved, two stationary, and two dead of hydrocephalus and phthisis. Finally, after a lapse of eighteen months, ten children were completely cured, three nearly cured, and two in their original state.

Every physician who has been in the habit of treating scrofula on a large scale, must admit that these results are extremely favourable. In addition to the evidence thus adduced, M. Negrier gives an abridged account of fifty-six cases of scrofula, where the same remedy was employed with considerable benefit. It required some length of time before the medicine affected the general health. Ten of these patients were affected with scrofulous enlargements of the glands; the tumours seldom began to decrease before the end of fifty days; three patients were completely cured, and four others much relieved. Four cases of scrofulous ophthalmia were treated with the walnut leaves; in addition to the infusion and syrup, the following collyrium was employed:—

Decoction of walnut	8 ounces,
Extract of belladonna	1 scruple,
Laudanum	1 scruple.

The four cases were speedily cured.

Twenty cases of scrofulous ulcers were treated; fourteen were radically cured; four much improved; two died of other diseases during the treatment: the period of treatment commonly extended over two to six months, and in a few severe cases over two years. The most effective topical application was fine lint moistened with the decoction; in some cases the powdered leaves were sprinkled over unhealthy sores, and soon gave rise to vigorous granulations.

Nineteen patients were treated for scrofulous affections of the bones; the results were satisfactory, but, as might be expected, very slowly obtained.

To sum up, of fifty-six patients, thirty-one were cured and had no relapse: eighteen were very remarkably improved, and many of them nearly cured: four remained stationary, and four died.

M. Negrier concludes his memoir with the following directions for the preparations of walnut. The infusion is made with an ounce of the leaves in twelve ounces of boiling water; it may be sweetened with sugar or the

syrup presently to be noticed. Two or three cupfuls may be given daily, or even five. The decoction is made with a handful of the leaves, boiled for fifteen minutes in a quart of water. The extract may be made in the usual manner, from the dried leaves. For the syrup, eight grains of the extract are mixed with thirty-two scruples of common syrup: infants and young children may take two or three tea-spoonsful in the day; adults three drachms. The pills may be made of the extract, four grains in each; from two to four in the day.—*Journal de Med. from Arch. Gen., June*, 1841.

Provincial Medical and Surgical Journal, July 17, 1841, *p* 304.

43.—ON THE BEST MODE OF EMPLOYING ELECTRICITY OR GALVANISM IN THE CURE OF NEURALGIA.

By M. C. James.

M. James states that the following mode of applying galvanism or electricity to nerves suffering from neuralgic affections, rarely fails in effecting a cure. He is inclined to attribute the numerous failures which other practitioners have met with in the use of this remedy, to the circumstance, that the electric fluid was never made to pass through the nerve at all, but along the skin merely,—rarely, if ever, being made to penetrate to the affected nerve. A fine needle, of about two inches and a half long, made of some metal which is not easily oxidized, platina or gold being the best, and finely polished, is introduced into the seat of the affected nerve. The needle is recommended to be pushed straight down at once to the affected nerve, and not to be turned round, as is often done in introducing needles into rheumatic parts. All needles composed of metals which are oxidizable are condemned as hurtful, both because they give pain from their loss of polish, and from their causing an indelible stain in the spot where they are introduced,—a circumstance which is especially to be avoided when operating on the face or other exposed parts of the body. The neighbourhood of important blood-vessels, is, if possible, to be avoided; at least they should not be transfixed. It is not, however, indispensable to pierce the nerve; it is stated that it is sufficient if the needle be in contact with it. Two needles are generally requisite,—one at the origin of the affected nerve, the other towards its affected terminating branch. The introduction of the needle rarely gives pain.

The needles being fixed, a current of electric fluid is made to pass along the nerve, the positive pole being put in communication with the needle fixed in the origin of the nerve, and the negative pole with the needle inserted at the extremity of the branch. The voltaric pile of five or six plates usually furnishes a sufficiently powerful current for the first sitting. The electro magnetic apparatus of Mr. Clarke, of London, is recommended as being that which is both most convenient, and whose intensity can be increased most easily at will. The wires of the electric apparatus are only kept in contact with the needles for a few seconds; in some cases, however, a continued current of the electric fluid is made to pass along the nerve. A kind of pricking pain is experienced under the influence of the electricity, most acute at the negative pole.

Several sittings are required before the neuralgic pain leaves the nerve; after it does leave it, however, the application must not be immediately discontinued, as sometimes it returns. It is, therefore, recommended, before withdrawing the needles, to wait for a few minutes, and direct the person to make the motion which usually brought on the pain; if it returns, one or two additional shocks, passed along the nerve, will make it completely dis-

appear. No after treatment is necessary: and when properly performed, the punctures give no uneasiness, and require no treatment.

M. James relates a number of instructive cases of neuralgic affections of the nerves, which occurred chiefly in the practice of M. Magendie, who is the great advocate for this mode of treating neuralgia, which were relieved by the use of electricity.

Edinburgh Med. and Surg. Journal, July, 1841, *p.* 291.

44.—HYDROCYANATE OF IRON, A CURE FOR EPILEPSY.

By M. Janson.

M. Janson states that for a length of time he has been in the habit of administering hydrocyanate of iron in cases of epilepsy, and with great success, but that he was unwilling to announce prematurely his mode of treatment, lest it should ultimately prove unsuccessful. Dividing all cases of epilepsy into organic and nervous, (the former generally hereditary,) he finds that in the latter "Hydrocyanate of iron administered periodically suspends the attacks, prevents their return during the time that it is used, and that the suspension is ordinarily followed by a complete cure of the disease." He adds that "it is necessary to persevere for a long time, and obstinately, in the use of this remedy, and that the proportion be modified according to particular idiosyncrasies." He mentions several cases of complete success, and one in which several relapses occurred not less instructive from the effect which the medicine had in again putting a stop to the disease. It is given in doses of half a grain night and morning, gradually increased to ten grains for a dose.

The writer remarks, that "the epochs most favourable for the full success of this anti-epileptic remedy are the return of the moon and the full moon." He concludes, "You see then that the means which I propose has been constantly efficacious, even in some cases which we might regard as hereditary."

Journal de Connoissance Medico-Chirurgicales

45.—ON PARALYSIS OF THE SEVENTH PAIR OF NERVES.

By M. Constantin James.

A case of remarkable interest, and having a considerable bearing on the physiology of the seventh pair, has been brought forward by M. Constantin James. The patient, a young female, presented herself to M. Magendie, having a complete paralysis of all the facial muscles supplied by the seventh pair, on the left side, with great exaltation of sensibility in the auditory nerve. The whole face was drawn towards the right side. Sensibility continued perfect in the face, tongue, &c. Galvanism was prescribed, one needle being placed over the parotid gland, the second successively over the supra-orbital, infra-orbital, and mental foramina. After a short period the features became less drawn to the right, and the paralysis of the left side appeared at first sight to be diminishing, but on examination it was found that this was not the case, but that it was owing to the disease extending to the right side, both now being equally immoveable by the patient. After the galvanism had been continued some time, the muscles of the left side again underwent slight motions, and the features were drawn to the left side, (the reverse was the case when first seen by M. Magendie,) and lastly, the nerve of the right side obtained its power, and the face assumed its normal appearance.

Gazette Medicale.

46.—ON THE SULPHATE OF QUININE IN THE TYPHUS OF CHILDREN.

This disease, at all times grave, in Paris has latterly affected with particular intensity and frequency young children. The writer of this paper, therefore, though he has not advanced many cases to show the efficacy of quinine, yet from its known tonic and antiseptic properties, our prepossessions are in its favour. The patients to whom it was given, six in number, were all between six and fourteen years of age. This medicine, in three of the cases, was the only one given; in the others additional antifebrifuges were used. The result was that three out of the six died. In all the effect of the quinine was to reduce the number of the pulse very considerably after the first dose, but at the same time it became very irregular. The face also and general surface became pale and much cooler. The medicine was given in doses of ten grains in the twenty-four hours.

Archives de Medicine.

47.—CHLORIDE OF BARIUM IN SCROFULOUS AFFECTIONS.

By M. PAYEN, of Aix.

M. Payen, of Aix, has just published the result of many cases of different scrofulous diseases, treated with chloride of barium. In some instances he confesses, that he failed from not knowing the true principle on which it should be given. When given with proper indications, it is "a powerful and even heroic" remedy for scrofula. Unlike most other anti-scrofulous medicines which are tonic or excitant, chloride of barium is a counter-stimulant or anti-irritant: hence the greatest advantage results from its use in scrofulous affections, attended by an irritable or febrile state of the system, whilst it is contra-indicated in lymphatic and indolent constitutions, or when the system has been weakened by deprivations. Though necessary to be used with caution, it may be given in larger doses than are generally mentioned; for instance, beginning with two grains. Care should be taken that it is not given in any vehicle decomposing the salt.

Journal de Connaissance Medico Chirurgicales.

48.—HYDRO-SUDOPATHIC TREATMENT OF DISEASE.

By M. GIBERT, Paris.

This method of curing diseases by water alone in all its different modes of application, which has made such a sensation in Germany, is at present tested by M. Gilbert in the Hopital de St. Louis, the great receptacle for skin diseases in Paris. It is used as a drink, in partial and general baths, as a lavement, and as a douche. Perspiration is induced by the natural heat of the body, rolled in blankets, in some cases a cloth moistened in cold water being interposed immediately in contact with the body. The perspiration is kept up for some time, the patient is then plunged in a cold bath, and considerable friction used, till the skin becomes supple, and the transpiration ceases, without, however, the reaction being suppressed. Hence this operation should not last beyond a few minutes. The patients should then be dressed, and made to take exercise. During the period of their being enveloped in the blanket, they should drink freely of cold water. Eight patients have been submitted to this treatment; two icthyoses, four lepra inveterata, one prurigo, and one lichen agrius. The result was, the prurigo and two ichthyoses entirely cured, all the others remarkably alleviated, ex-

cept the lichen agrius, in which M. Gibert was obliged to give up the treatment, on account of its producing an affection of the chest. More extended experiments are being carried on, and we are promised the results as soon as possible.

Gazette Medicale.

49.—ARTIFICIAL SEA WATER.

The marked action which sea water exercises over many diseases, especially those of a scrofulous nature, depends not only on the salts of soda, lime, and magnesia, but also to a great extent on the organic principle furnished by the numerous plants and animals which it contains. It is necessary, then, in forming artificial baths, to obtain a quantity of the different fuci, and concentrate their medicinal principles in the water. This may be done either by decocting the marine plants, or (which is much preferred by M. Vardo) exposing them to the slower action of the sun. By this means there is less danger of the organic principles being decomposed.

Gazette Medicale.

50.—ON THE EMPLOYMENT OF COLD AFFUSION IN ACUTE HYDROCEPHALUS.

By Dr. MUNCHMEYER, of Verden.

Dr. Munchmeyer observes that the medical world is greatly divided in opinion as to the value of this remedy; some persons greatly extolling its efficacy, while others regard it as altogether useless. He considers it to be a most important remedy, and one which will often save life when all other means have been useless. One great reason why cold affusion has met with so few supporters is to be found in the misconception which has prevailed in reference to the proper time for using it. It is certainly not always advisable to resort to it, and it should never be forgotten that its mode of action differs essentially from that of cold when kept constantly applied to the head. In the employment of cold affusion, it is the secondary action of cold, as well as the sudden shock to the system produced by the mode of its application from which benefit is expected, while in the case of cold lotions to the head it is the primary action of cold which is obtained. Cold affusion then must not be looked upon as a directly antiphlogistic remedy, nor is its employment indicated during the early inflammatory stages of hydrocephalus, but rather when effusion, the consequence of inflammatory action, has taken place and a tendency to paralysis exists. After the subsidence of the violent symptoms of the disease, and when the patient has sunk into a comatose state, with a pale countenance, occasionally suffused with a flush, dilated pupils, strabismus, and slow pulse, this remedy will frequently prove of excellent service.

In order, however, for benefit to be derived from it, it must be employed in an efficient manner. Dr. Munchmeyer directs that the patient should be taken out of bed, stripped of his clothes, and wrapped up in some simple covering (if waterproof the better,) which leaves only his head exposed. He should then be placed in a sitting posture in a bath or tub, and the person who administers the affusion should mount on a chair and pour cold water upon his head, in a moderate stream from the height of five or six feet. This may be continued for a minute or two, and repeated twice or thrice. The patient should then be wrapped up in a warm sheet and placed in bed, where he should remain till it is thought proper again to have recourse to the rem-

edy. At first, it will probably be requisite to repeat the affusion, in the course of an hour and a half or two hours; but as the patient improves the interval may be longer, so that at last it will not be necessary to employ it above two or three times daily.

The immediate effect of cold affusion is, that the patients awake from their comatose condition and begin to cry violently, which they continue to do so long as the water is poured upon them. They afterwards appear exhausted and pale, the skin is cool, the pulse small and very frequent. When placed in bed they usually fall into a dose, the pulse becomes more regular, and the warmth of the skin returns. By degrees, as with the repetition of the remedy the patients improve, they begin to have sound sleep, from which they awake in the possession of all their senses, recognize those by whom they are surrounded, and cease to squint. At the same time too a sweat, frequently of a critical nature, breaks out upon the whole body, and during its continuance the employment of cold affusion is very hazardous. The patient's sleep becomes more refreshing, and the comatose condition recurs at longer intervals; he begins to notice what goes on around him, the head regains its natural temperature, and the febrile symptoms disappear. The employment of affusion must, however, still be continued for some days, since relapses very frequently occur.

The paper is illustrated by five cases. In three the employment of cold affusion was perfectly successful, in one it produced temporary amendment, and the death of the patient was to all appearance owing to the apathy of the parents, who neglected to persevere in the treatment, while in the fifth convulsions and death followed affusion while the patient was perspiring profusely.

British and Foreign Medical Review, Oct. 1841, *p.* 559.

51.- ON THE LIQUOR HYDRIODATIS ARSENICI ET HYDRARGYRI

By M. Donovan, Esq., Dublin.

[In Article 82 of our second number, we gave an account of this new preparation as recommended by Mr. Donovan and used by many eminent men in Dublin; but as we did not publish the formula for its preparation, we now do so.

The process is as follows:]

"Triturate 6.08 grains of finely levigated metallic arsenic, 15.38 grains of mercury, and 50 grains of iodine, with one drachm measure of alcohol, until the mass has become dry, and from being deep brown, has become pale red. Pour on eight ounces of distilled water; and after trituration for a few moments, transfer the whole to a flask; add half a drachm of hydriodic acid, prepared by the acidification of two grains of iodine, and boil for a few moments. When the solution is cold, if there be any deficiency of the original eight ounces, make it up exactly to that measure with distilled water; finally, filter. The theory of this process need scarcely be adverted to. By the long continued trituration of arsenic, mercury, iodine, and alcohol, the metals are converted into iodides, which combine. The mass, by solution in water, is converted into an hydriodate of arsenic and mercury. The quantities of the two metals are so adjusted, that when converted into protoxides by decomposition of a portion of the water in which they are dissolved, there will be eight grains of protoxide of arsenic, and sixteen of protoxide of mercury. The quantity of water is such that each drachm measure of the solution will contain exactly one-eighth of a grain of protoxide of mercury. I conceive that the quantity of mercury ought to be double that of arsenic, in

order to ensure a slow and moderate, yet adequate mercurial action, along with the proper effect of the arsenic. Of this *liquor hydriodatis arsenici et hydrargyri*, each drachm measure consists of—water, one drachm; protoxide of arsenic, one-eighth of a grain; protoxide of mercury, one-fourth of a grain; and iodine (converted into hydriodic acid) four-fifths of a grain. The colour of the solution is yellow, with a pale tinge of green; its taste is slightly styptic. It cannot be properly conjoined with tincture of opium, or with sulphate, muriate, or acetate of morphia; for all these produce immediate and copious precipitates in it. Hence, if opiates are to be used during the exhibition of this arsenico-mercurial compound, they must be taken at different periods of the day. Tincture of ginger produces no bad effect.

The following formula is proper:

> Liquoris Hydriodatis Arsenici et hydrargyri, ℥ij; : Aquæ Distillatæ, ℥iiiss.; Syrupi Zingiberis, ℥ss. Misce. Divide in haustus quatuor. Sumatur unus mane nocteque.

Thus, one-sixteenth of a grain of protoxide of mercury would be taken in each dose, along with two-fifths of a grain of iodine, which, being in the state of combined hydriodic acid, will be much diminished in energy of medical effect. This is no doubt the proper dose to begin the exhibition of arsenic with, but it will soon be necessary to increase it. The division into draughts is here necessary; first, to insure accuracy in the dose, so essential in the case of this active medicine; and, next, to prevent injury to the ingredients by the use of a metallic spoon as a measure,—the general way in which, unfortunately, the dose of a medicine is determined." *(Dublin Jour. of Med. Science*, vol. xvi. p. 277, Nov., 1839.)

Since the publication of the memoir from which we have now quoted, Mr. Donovan has published the opinions of various professional friends, regarding the importance and efficacy of this new remedy. After giving their communications at length, he makes the following observations:—

"In several of the reported cases, it may be observed that slight ptyalism was induced. This is not to be wondered at, when it is recollected that the mercury is exhibited in solution, and that arsenic itself is capable of acting on the mouth. Of the latter fact, an instance has been lately recorded. I hope the profession will favour me with other statements, according as the effects of this medicine become more known. They shall be published from time to time. And as the employment of various processes might lead to dangerous consequences, I entreat medical men to be certain that the formula I have given shall be rigidly followed in its preparation. It would be a pity that the character of the remedy should suffer through any error in its mode of production. The test of its perfection is, that the whole of the iodine, arsenic, and mercury, shall disappear and be dissolved during the process of preparing it. This cannot happen unless the three elements employed had been chemically pure, and unless the trituration had been sufficiently long continued. The colour, in a short time after the liquid is prepared should be golden yellow, and the sp. gr. 1.02. I have known one instance in which this medicine had been attempted to be produced by substituting common white arsenic of commerce in place of re-sublimed metallic arsenic; it is almost needless to observe, that the former substance does not answer the purpose. If any remains after boiling, part of it will be arsenic, and where so small a quantity is made use of, not a particle can be spared to go to waste."—*Edinb. Jour. of Med. Science.*

Medical Gazette, Aug. 6, 1841, p. 765.

52.—TREATMENT OF CHRONIC PLEURISY WITH EFFUSION.

By the late JAMES HOPE, M.D., Assistant Physician to St. George's Hospital.

The following paper must possess a high interest for our readers, when we inform them that it was communicated by Dr. Hope during his last illness, and concluded on his death bed. Unable to complete it as he could have wished, he was compelled to dictate it in the shape of notes, which he finished only four days before his decease. To those who knew Dr. Hope well, this zeal for science and his fellow-creatures, will occasion no surprise. It was consistent with the character of the man, who died as he had lived, an accomplished physician and a good man.

At the present time, there is a prevalent doubt whether the fluid of empyæma is ever absorbed. This fluid, it may be remarked in passing, may be either sero-fibrinous and albuminous, or contain pus in any degree up to its pure condition. This seems to be now a settled question, and I think it ought to be so, as the fluid, in healthy subjects, kills not by its quantity, but but by suffocating.

I cannot feel surprised at this want of success in the cure of empyæma, when I notice the unsettled, vacillating, inadequate treatment recommended even by those writers who think most favorably of the possibility of a cure.

Dr. Law's treatment comes nearest to that which I have found effectual, but he is too timid in continuing the gentle use of mercury, from fear of its inducing irritative fever and hectic. This supposed irritative fever, however, is, in most cases, nothing more than excitement of anæmia, (a fact of which he does not seem to be at all aware, as even in the convalescent period, he does not even name iron as a remedy,) and the hectic is a necessary consequence when the fluid is pus, and this is diffused through the whole circulation by the process of absorption. I have steadily continued the gentle external use of mercury through the most violent hectic, coming on twice a-day in tremendous paroxysms; while I have counteracted this by the free use of mineral acids; and by a diet, not only of strong broth at luncheon, but of animal food at dinner—the patient's tongue being clean, and his appetite and digestion always good.

Dr. Stokes, whose writings on pleurisy I had not the pleasure of seeing till long after I commenced my own observations, I find to be far the most successful in his treatment of chronic pleurisy and empyæma. In an excellent chapter, containing a considerable portion of original matter—some, perhaps, a little fanciful—he mentions that he cured twenty cases running, by the use of a pint daily of cold solution of Lugol's iodine, and from a quarter to half an ounce of the ointment rubbed into the side. He is, likewise, very favourable to the use of blisters.

I have myself been instrumental in curing five and thirty cases consecutively, during the space of four years, but principally two years and a half, while I was assistant physician to St. George's Hospital.

As I have not leisure to continue this paper at present, I subjoin the following memoranda of how I shall proceed if time permit.*

The private cases being in great detail, and in general features greatly resembling each other, it would be useless to give the whole in full. Therefore pick out a few which give at length as general types—for instance, Miss Miller, Mr. Morgan, and Sir Clifford Constable's coachman—the remainder insert in an abbreviated form, together with such of the out-patients of St. George's as I can recall to memory, though I have lost the notes of their cases.—Show that I used mercury in all degrees of intensity, so as to ascertain what quantity was the most effectual, but at the same time, least injuri-

* It will be observed that from this point, the form of private notes is adopted.

ous.—Show that I always used opium, in full proportion, with the mercury, and that I used the milder and the external forms when the others could not be borne—thus taking *especial* care to protect the mucous membranes.—Add that I found prompt and free salivation by calomel and opium, and the use of one or two drachms of ointment on each groin and axilla, night and morning for forty-eight hours, (in conjunction with the other remedies presently to be specified,) produce the most rapid and satisfactory effects of absorption, in cases where the dyspnœa and faintness seemed to be most urgent and dangerous. It was quite common, and, in fact, occurred in the majority of cases, that the fluid descended one-third, and still oftener one-half, down the chest, within the space of forty-eight to sixty hours, carrying with it the extreme dyspnœa and faintness, to the great relief of the patient.

Say that blisters were used from the first, and that the following became my settled plan of managing them. One blister six inches long, 3½ broad, exclusive of margin, was placed longitudinally over, and a little to the outside of the angles of the ribs, leaving space for another of similar size between the first and the spine. Great care was taken to remove the cuticle, (one means of which was to cover the surface of the blister with silver paper,) as this forms by far the quickest healing plaster; but after about forty-eight hours, during which the running was absorbed by dry napkins, carefully prevented from adhering, it became necessary to cover the whole with the mildest soap plaster, spread on soft calico, to prevent the cuticle from being accidentally abraded. In this way all irritation promptly subsided, that is, in the course of from two to three days, and the patient was ready for the second blister, which was placed between the first and the spine. It was similarly treated; and, at an equal interval, a third was placed in front of the original one; that is, rather forward in the axilla. When pain indicated the possibility of a pleuritic stitch in any part of the side, it is needless to say that the first blister was placed over that.—Say that diuretics are conjoined: viz. Squill; Sp. Æth. Nit.; juniper; iodide of potassium, and, when there is no irritation of the mucous membrane, the various other preparations of potass. Digitalis, by creating faintness, is apt to confuse the symptoms; I do not therefore use it till later. Where all these remedies had failed for two or three days, and dyspnœa continued as urgent as ever, I have occasionally used a powerful hydragogue, as half a grain to a grain of elaterium, combined with calomel and capsicum to prevent nausea; or the Pulv. Jalap. Comp. 3j.; so as to produce ten or twelve copious watery evacuations per day, stimulants being at hand in case of any sinking tendency. The effect of this has on several occasions been perfectly satisfactory, absorption in the chest having now made rapid progress. I derived this idea from a case already alluded to, in which a patient had an accidental hyper-catharsis to the amount of sixty stools in two days, which emptied the chest in the same space of time. The patient is better in bed, both because it favours gentle transpiration and obviates faintness.

Remind that, hitherto, I have been treating a case in which the dyspnœa seemed imminently dangerous, and the most vigorous use of remedies consequently indispensible; but now explain that inconvenience sometimes resulted from hypersalivation; for, notwithstanding an immediate suspension of the mercury either on the first appearance of tenderness of the gums, or of amelioration of the symptoms—especially the dyspnœa and obvious commencement of absorption, untoward salivation would occasionally occur and greatly retard the convalescence.—Explain that, on several times observing this, and having reason to believe that the patient could bear the dyspnœa with safety for some hours longer, provided he were prevented from rising, which creates faintness, (case of Mr. Smith, barrister,) I used more moderate quantities of mercury, being content to affect the gums within three or four days. In this way, the action of the remedy was easily controlled, either by omit

ting the mercury for two or three days, if its action threatened to be considerable, or by merely diminishing it according to the evidence of the mouth and of the symptoms. I found, however, that it did not answer to suspend it altogether, but that a continuation of it daily in a mild form, as a blue-pill night and morning, or at night only, for the purpose of maintaining the first impressions for a period of two or three weeks, or in short, until all the disagreeable symptoms had disappeared, was attended with far better success.—Explain, further, that the great acceleration of pulse, which rises commonly to 120 or 130, and in young persons, even to 150 or 160, and which is attended with what the patient calls "internal fever," thirst, craving for cold drinks, and dryness and heat of skin, is not necessarily a result of fever, but it *is* necessarily a result of anæmia, occasioned by the deficiency of oxygenation from the total incapacity of one lung at least. Here was the error made by Broussais, who supposed this to be fever and put his patient on the lowest diet. On the contrary, acting on the opposite principle, I always supply my patients with at least one or two pints of concentrated beef-tea, or plain ox-tail soup: and if the state of the tongue and the alimentary canal fully authorises it, I permit them tender old mutton or beef for dinner. On this treatment, the pulse and "internal fever" rapidly fall in proportion as the anæmia disappears.

Next proceed to those cases in which hectic is established, resulting, for the most part, I should imagine, from the fluids being of a puriform character—for, after a month or six weeks, and sometimes much earlier, if the inflamation have been very intense, it assumes this character.—Allude to the opinion pretty prevalent, that mercury is injurious in such cases, and say that I have not found it so, but that its use was still indispensable: for I have noticed that where it has been omitted, contrary to my wishes and instructions, a recurrence of the effusion has taken place, notwithstanding the use of mineral acids and the various other remedies usually considered available against hectic; whereas, on resuming mercury with opium, and giving the mineral acids for hectic, I have been enabled to restore matters to their former condition, though not without an extra shake to the patient. One of the best instances of this was presented by Sir Clifford Constable's coachman.—Dwell on this case; say that, after acute pleurisy of three weeks I saw him, and the chest was emptied in a week, but the mercury ordered to be continued. This, on my taking my leave, was omitted; and, as he seemed weak, (viz. merely from anæmia) he was ordered ammonia, brandy, and other stimulants. In ten days, when I was again called in, his chest had refilled, and he now had a most violent hectic paroxysm at eleven o'clock, A.M., and again at 11, P.M. Each of these thoroughly drenched him, and during the extreme heat the pulse would rise to 150, being also barely perceptible. In this I saw nothing but a large quantity of pus in the circulation, which nature was endeavouring to throw off in her usual manner. I believed, in short, that the fluid in the chest was wholly purulent. I therefore continued the mercury and blisters in moderation, and made free use of the mineral acids, which fortunately, he bore perfectly well. During the brief intervals of the hectic paroxysms he exhibited that marked relief which we habitually see, and had always a keen appetite for his meals. He accordingly, took as much mutton-chop, beef-steak, or roast or boiled mutton, as he was inclined to take. Under this treatment the chest was again emptied within the space of ten days: the hectic symptoms slowly gave way during a period of a month or six weeks, and I dismissed him convalescent to go to the country. I may add, however, that when the hectic was nearly gone, sulphate of iron was added to his sulphuric acid, in order to co-operate with the animal food in removing all remains of anæmia.

Medico-Chirurgical Review, July, 1841, *p.* 295.

53.—TREATMENT OF ACUTE TROPICAL DYSENTERY.

By Robert Lewins, Esq., M.D., of Leith.

[Dr. Lewins first enters into the nature of tropical dysentery; and then gives the common treatment by blood-letting, general and local,—calomel and opium—small opiates—and starch injections. He then directs the reader's attention particularly to Dr. Hayn's treatment, in Java, which he witnessed during a residence there.]

His reatment consisted in administering, at the very outset of the disease, a scruple of the chloride of mercury. According to his experience, this powerful pharmaceutical agent, when employed in small doses, acts as an irritant, but when given in large quantities, has so decided and immediate an effect as to merit the name of a direct sedative. I have seen soldiers brought into hospital in the most severe agony, discharging mucous and blood at very short intervals, and labouring under the most aggravated form of the disease. On administering a scruple dose of calomel, the most marked and gratifying amelioration took place. The tormina, tenesmus, and diarrhœa almost instantaneously cease, a feeling of comfort takes the place of the most intense suffering, the countenance brightens up, the pulse, heat of tongue, and thirst, when present, are diminished, and in short all the distressing symptoms are much alleviated. This remission is, however, often followed by an exacerbation at the end of six or eight hours. Reaction is established, the pulse beginning to rise, and if no steps are taken to prevent it, the whole train of symptoms return with almost undiminished violence. If the diarrhœa and tenesmus come on, no hesitation need be felt in repeating the scruple dose of calomel, but, if the physician be on his guard, he may often prevent this, by active measures whenever the tormina and borborygmus are apparent. This is the critical moment, and a scruple of calomel divided into four doses, administered every three hours, will often prove sufficient to prevent reaction, and overcome the disease. If the malady be obstinate, five grains of calomel should be given boldly every three or four hours, and under this treatment the medical man will seldom be disappointed. When the bowels have been quiet for thirty-six hours, a scruple of the powder of rhubarb was found to be most serviceable. The stools which followed were fetid, dark coloured, fluid, sometimes bloody, but voided with little or no pain. If symptoms of inflammation appeared in any of the abdominal viscera, which rarely happened, leeches were used; but a blister was almost invariably applied to act as a safeguard, and to relieve the remaining irritation in the intestines. The superiority of this treatment over the other is, I think, unquestionable. The patient is often almost immediately relieved, and is discharged before the acute disease is overcome by other management. Convalescence is very rapid, the debility which strikes the observer as great in the early stage of dysentery being almost entirely fictitious, arising from the patient's instinctive dread of exertion; while on the contrary, if the disease be allowed to proceed unchecked until even a very slight degree of disorganization has occurred, the process of recovery is most tedious and discouraging. Salivation comes on occasionally under this treatment, but is by no means necessary for the cure of the disease.

Great care is requisite in the treatment of dysentery, that the patient be confined to an equable temperature; and it may be remarked, that seamen on board ship are very severely affected by small doses of mercury, owing to the exposure to which they are necessarily subjected, from the dampness of the atmosphere, occasioned by the evaporation from the surface of the vast expanse of water by which they are surrounded, and possibly in some degree from the nature of their aliment. Mercurial pains are in these circumstances a com-

mon occurrence after the mildest course of mercury for syphilis, or any other affection, and, from their unmanageable character, prove a source of incalculable annoyance both to the practitioner and his patient.

I have only to add that I am totally unable to explain the rationale of the treatment recommended. Whether its good effect is to be ascribed to the power which mercury possesses over the biliary secretion, to its contra-stimulant virtues, or to some specific effect in diminishing irritation in the internal surface of the alimentary canal, I do not pretend to determine. I feel myself, however, fully warranted in stating, that experience, the grand criterion of the comparative value of remedies, has proved this treatment to be most efficacious. I am persuaded that, if generally adopted, it would, in the majority of instances, lead to a satisfactory and speedy termination of this most distressing disease.

Lond. and Edin. Monthly Journal of Med. Science, July, 1841, *p.* 473.

54.—STRYCHNINE IN CHOREA.

By M. Foulhieux.

M. Foulhieux, of the Hotel Dieu de Lyon, gives the following very interesting case of chorea, treated with strychnia.

The patient, a boy aged thirteen years, at his entry into the hospital, July 10th, 1838, presented the symptoms of a very intense chorea, which had supervened six weeks previously. A dread of being beat by his school-master was thought by his father to have induced the disease, which came on suddenly, and without any gradation of the phenomena. The limbs were so affected with irregular movements, as to render it almost impossible for the patient to walk, or bear his food to his mouth: his speech was always difficult, and often completely impeded. Sleep procured a complete cessation of all these symptoms.

Up to January 26th, 1839, he was treated with the ordinary remedies—purgatives, valerian, assafœtida, &c. "On this day, January 26th, I had recourse to pills prepared with a twelfth part of a grain of strychnia, one given each night and morning. The two first days the strychnia produced no appreciable effects. The day following there was a gradual exacerbation of all the symptoms of the disease, and the developement of a furfuraceous eruption over the whole body. During the nights of the 28th and 29th, the patient had violent muscular contractions, which twice precipitated him from his bed, and greatly alarmed his attendants. In the morning, these contractions still continued, but became less strong. The strychnia was then intermitted, and a simple sedative potion administered.

The 30th Jan. not only the yesterday's convulsions had ceased, but the movements of the chorea were singularly diminished. They gradually lessened till Feb. 4th, when they no longer existed. The patient was kept in the hospital till March 5th for a rheumatic affection of the wrist, which came on without any apparent cause."

[It is very evident from the short period which elapsed before the cure of the disease, (which was of some standing,) after the administration of the strychnia, that it must have had a considerable effect; but it is worthy of consideration, how far the eruption assisted in the cure, and if this was in any way induced by the remedy. The treatment of chorea by strychnia would be plainly contra-indicated if it co-existed with any chlorotic or inflammatory affection, and would be less likely to prove efficacious, if the disease were of any standing.]

Gazette Medicale.

55.—ON ERGOT OF RYE.

By M. Bonjean.

M. Bonjean read before the Congres Scientifique de France a very interesting paper on the ergot of rye. He has established, by numerous experiments, "1st. That ergot, gathered the first day of its formation, has not the *toxic* qualities which it possesses when collected after the sixth day. 2nd. That a heat of 100° (cent. we suppose, though not so stated,) destroys its toxic properties. 3rd. Fermentation has the same effect. 4th. That long-keeping does not affect its strength. That it contains two principles: one oleaginous, poisonous, possessing the toxic properties in a high degree; it is soluble either in cold ether or boiling alcohol, but as its power is destroyed by heat, it should be extracted by the former. Twelve parts equal thirty-two of the ergot. 5th. An aqueous extract. This is not toxic, but possesses high hæmastatic properties, and is a valuable remedy in many kinds of fluxes. Best prepared from the powder previously deprived of its toxic oil.

Gazette Medicale.

56.—PREPARATION OF THE HYDRIODATE OF POTASH OINTMENT.

By Messrs. T. and H. Smith, Chemists, Edinburgh.

The hydriodate of potash ointment has not hitherto been prepared, so far as we know, by any other mode than that of rubbing down the salt in the mortar into a fine powder, and mixing this with axunge. Experiencing the great difficulty, or rather impossibility of making a nice ointment in this way, however much labour might be bestowed in powdering the hydriodate, we were led to try a method suggested to us by a knowledge of the great solubility of this salt in water. As we find it perfectly successful, we believe that it will not be unacceptable to many of the readers of the Monthly Journal, especially those who have experienced the impossibility of persevering in the use of this valuable discutient, from the severe irritation produced by the friction of the gritty particles on the skin.

Whatever quantity of hydriodate is to be used, let it be dissolved in its own weight of distilled, or some perfumed water, and then mixed thoroughly in the mortar with the proper quantity of lard. The two incorporate perfectly, with a very little heating, and form a fine smooth ointment.

The hydriodate of potash ointment thus formed, besides being free from the objection to its use already noticed, will, it is presumed, be much more readily taken into the system, and thereby prove more effectual.

London and Edinburgh Monthly Journal of Medical Science, Oct. 1841, *p.* 796.

57.—HOW TO MAKE COPAIBA INTO PILLS.

Take—Balsam of Copaiba, five parts; Bicarbonate of Magnesia, three parts. Rub them together, and a mass is made exactly adapted for pills.

This affords a very convenient means of administering this drug; the pills agree with the stomach better than the gelatinous capsules, or any other form that I am acquainted with (and they are not more than one-eighth to one-tenth of their price,) probably from the minute subdivision of the balsam, the efficacy of which is not at all impaired. Dr. A. T. Thomson has published a method of making copaiba into pills with calcined magnesia, which is tedious, and not so effectual as the above.

Medical Gazette, Aug. 27, 1841, *p.* 678.

SURGERY.

88.—ON CERTAIN STRUCTURES IN THE ORBIT, AND AN IMPROVED METHOD OF TREATING ITS DISEASES.

By J. M. Ferrall, Esq., M.R.I.A.,
Member of the Royal College of Surgeons in Ireland, and First Medical Adviser in ordinary to St. Vincent's Hospital.

[One of the most interesting papers which have lately appeared in the British Journals, is this by Mr. Ferrall. It places in a new light some most interesting appendages of the eye, and enables us to treat some of its diseases with more confidence than we have hitherto been able to do. In the year 1835, Mr. Ferrall was called to see a patient labouring under a most painful affection of the eye. He had been without sleep for more than forty-eight hours. The pain was in the ball of the eye, forehead and temple, and of a most racking and intense kind. The eye evidently projected three-quarters of an inch beyond its fellow; the lids were swollen and œdematous, and of a dusky red colour. The conjunctiva of the globe was protruded all round the cornea in the manner of chemosis, but its colour was not red nor vascular; it had a pale amber colour, and manifestly was distended by serous infiltration. The cornea and iris were perfectly healthy.

Bleeding and other severe antiphlogistic treatment greatly relieved for a time, but was not permanently relieved till the system had been affected with calomel.

Now, what was this affection? The eye was perfectly healthy, the disease was evidently in the appendages. There was neither corneitis, sclerotitis, iritis, nor retinitis. At first sight it seemed like periostitis, but one difficulty presented itself to this explanation: when the upper third of the superior eyelid was pressed in such a manner that the pressure was directed backwards towards the apex of the orbit, the sufferings were greatly increased; but when it was directed upwards towards the periosteal covering of the roof of the orbit, the patient did not complain. Besides, periostitis would hardly produce this projection of the eye. On account of the difficulty of coming to a just conclusion on the nature of this case, Mr. Ferrall resolved to examine the anatomy of the eye-ball more minutely. He found that a distinct sheath existed around the globe, which protected it from the unnecessary action of the muscles, and also assisted the muscles in their offices; and it was evidently this sheath, which he names the *Tunica Vaginalis Oculi*, which was affected in the foregoing case. He says:]

Having separated the divided conjunctiva, we expose, not, as has been described by anatomists, a cushion of adipose tissue, but a distinct tunic of a yellowish white colour and fibrous consistence, continuous in front with the posterior margin of the tarsal cartilage, and extending backwards to the bottom or apex of the orbit, where its consistence becomes less strongly marked. By proceeding in the manner I have mentioned, the parts are displayed with-

out any elaborate dissection. The sharp end of a probe, or director, will be sufficient to separate the ball of the eye from the new organ, by breaking gently the fine cellular tissue which connects them. Its colour is totally different from that belonging to its external surface, and it is here perfectly smooth, where the eye glides over it in its movements. The muscular substance of the recti muscles is no where visible, they lie on the outside of this tunic, which insulates and protects the eye in the most perfect manner.

The most beautiful portion of this mechanism, however, remains to be described. In the concavity of this tunic, and about half an inch posterior to its anterior or orbitar margin, are to be found six well-defined openings, through which the tendons of the muscles emerge in passing to their insertion in the sclerotic coat, and over which they play, as over pulleys, in their course. The tendons are loosely connected to the edges of those apertures by fine cellular tissue, which opposes no obstacle to their gliding movements.

The physiology of this tunic, which I have ventured to term the *tunica vaginalis oculi*, will be conveniently considered in relation to each of its separate offices, namely, as an investment and protector of the globe of the eye, and as regulating the direction in which the muscles of the eye are to exert their force. In either of those capacities, this new and beautiful apparatus (independent of its pathological importance) appears to possess a physiological interest, entitling it to a high place among the many evidences of design with which the animal frame abounds.

The uses of this tunic, as a covering, will be obvious from a brief consideration of the inconveniences to which, without this protection, the eye would be subjected during the action of its muscles. These muscles, it has been invariably taught, were in close contact with the globe of the eye, on their passage to their insertion, the interspaces being occupied by the fat of the orbit. This description of the parts, which is to be found in the works of the best authors, implies, that during the frequent action of its muscles, the eye must sustain a pressure as great and as suddenly applied, as the movements of the organ are rapid and energetic.

Now, according to the received anatomy of the orbit, the globe of the eye is grasped by the recti muscles in such a manner, that they must, during their action, exert upon it a sudden pressure analogous to that described by Sir Charles Bell. And when we consider, that between their origin and insertion they include the most prominent portion of the eyeball, it is obvious that the sudden swelling of their bellies during their action, (proverbially known to be as quick as thought,) must have produced a flash of light, if no protective partition had existed between them. *The use, then, of this tunic as a covering appears to be, to separate the eyeball from its muscles, and to protect it from pressure during their action.*

[Another office of this tunica vaginalis oculi is to assist the muscles by means of the openings through it, acting like so many pulleys, and thereby enabling the recti muscles to act with more power and rapidity in the different motions of the eye; and at the same time it prevents these muscles from retracting the eye—for "certainly if this tunic had no existence, it would be difficult to imagine how the recti muscles could communicate the rotatory movements to the eye without in a greater degree exerting a retracting power." The human eye has never been seen to be retracted, but *why* has never been explained before. Retraction takes place in many of the lower animals by means of an especial muscle—the retractor muscle; but this is fixed into the globe at its *posterior part*, near the entrance of the optic nerve, and cannot therefore exercise any injurious pressure on the globe. This tunica vaginalis oculi having been discovered, we are better able to understand

some hitherto inexplicable diseases. The following case illustrates what Mr. Ferrall calls "Rheumatic inflammation of the tunica vaginalis oculi," with protrusion of the eye:]

Laurence Grant, æt. 32, a carpenter, of dark complexion, and rather strong constitution, presented himself at St. Vincent's Hospital, in February, 1838, on account of violent inflammation and protrusion of the right eye. The globe of the eye projected considerably beyond its natural situation; the cornea and iris were healthy in appearance, but vision was much confused. The conjunctiva projected remarkably around the cornea, but its colour was pale amber, and without any trace of vascularity. The eyelids were both swollen and red; the lower part of the upper lid was so much tumefied, that the ciliæ appeared to grow at an unusual distance from each other; and its transverse diameter was considerably increased. The colour of the lid was of a dusky-red, and its surface was marked by a number of distended veins. Although the swelling of the palpebra had increased its vertical diameter, and caused it to descend, the protrusion of the eyeball was so great as to cause it to be uncovered. From the superciliary ridge to the inflamed portion of the eyelid, an interval could be seen, where neither redness nor swelling existed. This space was about half an inch broad, and extended the whole length of the lid transversely.

He complained of agonizing pain in the ball of the eye, and felt as if it were "dragged out of the socket." The latter sensation he described as never ceasing; but the pain was liable to severe exacerbations. He seemed to derive some comfort from keeping the palm of his hand pressed moderately against the whole tumour, although he could not bear the finger of another to be laid upon it. The upper portion of the superior palpebra, which was free from redness, could however bear pressure, provided it was not made suddenly, or so as to shake the whole lid, and that the pressure was directed upwards towards the roof of the orbit. When asked, he admitted that he perceived an occasional flash of light before his eye; but this appearance was more frequent in the beginning of the attack. It was now five days since the complaint commenced. He went to bed free from pain in the eye, and was disturbed about three o'clock in the morning. He had been unable to work for the last week from rheumatism in his knees and legs; the limbs were improving at the period of the recent attack. He had rubbed the parts affected with turpentine, but had used no internal remedy. There was still remaining slight fulness from effusion into the capsule of the left knee-joint, and tenderness with tumefaction about the middle of the right tibia.

This man had suffered severely from syphilis six years before, and had used mercury largely. He was now married, but his habits of intemperance, as regarded the use of ardent spirits, were little altered.

The temporal artery was opened, and sixteen ounces of blood removed, with relief. The improvement, however, was transient, and the pain returned almost immediately. The hospital being quite full at the time, and his lodging near, and not uncomfortable, he was allowed to take his medicine at home. Calomel and opium, three grains of the former, and half a grain of the latter were administered every third hour.

There was very little amendment until the constitutional effects of the remedy were established. This happened on the fourth day, when the disease began to give way. The pain first diminished, the eye then receded, and the redness gradually disappeared. The tumid condition of the palpebra, and the distorted appearance of the eyelashes, were the last to yield. When the disease in the orbit was removed, it was found that the tenderness and swelling of the knee and tibia were also gone.

[The following case illustrates rheumatic inflammation of the tunica vaginalis oculi, protrusion of both eyes consecutively, and cure by hydriodate of potass:]

Mary Smyth, æt. 48, was admitted into Joseph's ward, April 16, 1840, on account of rheumatism, with effusion into the capsules of both knee joints. She was a fat, unwieldy person, and was rendered quite helpless by the synovitis, although enjoying tolerable health before the attack. No other joint was affected, and she was free from fever. Some degree of restlessness attended the pain; and the renal secretion was scanty and high coloured. Fomentations were employed after the application of leeches, and colchicum administered internally. At the end of a week, and when the swelling was nearly gone, she complained of acute pain in the right eye. There was no appearance of inflammation during the first twenty-four hours, and it consequently attracted little attention, except that an active cathartic was exhibited. On the second day, the upper eyelid was inflamed and swollen, and the ball of the eye was observed to project a little; the pain was increased, and she was annoyed with occasional flashes of light before the eye. Blood was taken from the temple by cupping, and antimonials with purgatives were prescribed. She passed a wretched night, suffering great agony; and the next day, the phenomena of the disease were fully developed. The eyeball projected three quarters of an inch; the cornea and iris were healthy, and looked brilliantly clear in the midst of a very prominent chemosis. The colour of the latter was a yellow amber, without any vascularity or redness. The lids were swollen but did not cover the eye: the upper lid presented the dusky-red colour and tumid appearance described in the last case. The superior portion of its surface, or that next the superciliary ridge, did not participate in this change, and the two portions were separated by a very abrupt line of demarkation. Pressure on the upper division, when directed upwards towards the roof of the orbit, produced no pain. She could see as distinctly with the affected eye as with the other. The resemblance to the other cases was too striking to be overlooked; and as it was obviously not an affection of the periosteum of the orbit, and yet was connected with rheumatism, there could be little hesitation in making a diagnosis. I was desirous to know whether any other fibrous tissue was engaged, and therefore requested Mr. M'Sweeney, the gentleman who noted the case, to uncover the tibiæ. Here, although she had noticed it to us, we found distinct swelling, and great tenderness over the left tibia, about an inch below its upper end. She then admitted that it gave her considerable pain, but her sufferings in the eye were so much greater, that she disregarded it altogether.

Being at this time satisfied, from researches* already published, of the superior efficacy of the dydriodate of potass in periostitis, I determined to trust to it alone in combating this formidable disease; but as the organ of vision was in danger, I directed that this powerful salt should be administered at shorter intervals than usual. Ten grains were given every third hour.

At visiting hour next day, she had taken seventy grains of the hydriodate. She declared herself better, and suffered much less pain, but we could not perceive much difference in the eye. On the day following, however, every person who saw her was struck with the improvement: the whole tumour was greatly reduced; the ball of the eye had receded considerably; the chemosis was lessened, and the swelling as well as redness of the lids was diminished. On the fifth day from the commencement of the treatment, there was hardly any trace of the complaint, and the medicine was therefore discontinued. The tibia had now also recovered its healthy state, when, just as we congratulated ourselves on the rapid subsidence of so severe an

* Medical Gazette, April 10, 1840.

affection, the left eye became the seat of pain, and in thirty-six hours presented all the symptoms of the disease. The same protrusion of the eyeball, the same chemosis and swelling of the palpebræ, and, as in the previous attack, the same integrity of vision and intolerance of light. The hydriodate of potass was resumed in doses of fifteen grains every third hour, with a resolve to persist in its use (if it succeeded) for some days after the disease appeared to be removed.

On the day following, I had the satisfaction to perceive that the symptoms had received a check; and in three days more, to find them altogether nearly removed. The hydriodate was continued in diminished doses, and gradually lengthened intervals, for ten days after every symptom had disappeared.

Protrusion of the eyeball, which, when attempted to be explained by uncomplicated periostitis, requires some stretch of imagination, appears a very simple and inevitable result of inflammation of the tunica vaginalis oculi. There are here no soft parts to receive and divide the pressure, or protect the globe. The tunic is supported by other fibrous layers on its outside, as well as by the muscles of which they constitute the sheaths. Inflammation of this capsule must then be immediately followed by pressure; and when we recollect its conical form, and that, as happens in the case of inflammation of other fibrous tissues, effusion at once takes place in the cellular membrane connecting it to the ball of the eye, we perceive there is nothing to prevent the dislocation of the latter.

This effusion into the cellular tissue will make itself evident in another way. The conjunctiva at the place where it forms the fold, in being reflected from the eyelid to the eye, closes up the tunica vaginalis in front. At this point it will not only receive the pressure of the effused serum, but will become separated from its connexion with the sclerotic coat, by the extension of the infiltration; hence the amber-coloured chemosis without vascularity of the conjunctiva. Chemosis originating in conjunctivitis always presents, in addition to serous infiltration beneath, one or other of the forms of hyperæmia. The chemosis of which we treat is, in uncomplicated cases, the consequence of effusion from a deeper source. I can easily imagine the extension of inflammation from the fibrous structures of the lid, to its conjunctival surface, and thence to the sclerotic conjunctiva; but this complication did not occur in the cases which I have related.

In distinguishing those cases, I would not be supposed to mean, that inflammation of this tunic is a disease apart, and never combined with a similar condition of the periosteum or cellular tissue, on the one hand, or inflammation of the eyeball itself, on the other. I am aware they may exist together, for I have seen such cases. All I mean to assert is, that inflammation of the tunic described, may be the primary affection, and the point of departure from which the diseased action may spread to the other fibrous layers in the orbit, and finally reach the periosteum; and that the attack may even be limited to the tunica vaginalis oculi—that it may here produce a train of symptoms, of the most dangerous kind, and which have been hitherto supposed to reside in the periosteum, because the existence of other fibrous membranes in the cavity was not suspected.

[Mr. Ferrall shows the value of being acquainted with the anatomical structure he has described, in other cases, such as "adhesion of the tunica vaginalis to the globe of the eye from inflammation," "abscess between the tunic and the globe," "tumours within the tunica vaginalis oculi;" and lastly in the "extirpation of the globe." Respecting this last operation he makes the following valuable remarks.]

The comparative safety of an operation limited by this fibrous tunic is obvious, but an additional recommendation will be, the facility of its per-

formance. The conjunctiva being freely divided, the six tendons may be snipped across with a scissors one after another, where they emerge from the tunic. The eyeball will then be easily detached by a probe or director passed freely around it; when one step alone would remain—the division of the optic nerve. When we recollect that the roof of the orbit is occasionally found to be as thin as paper in some parts, it will appear most desirable to avoid stripping it of its coverings, by operating within this second orbit, or proper fibrous socket of the eye.

[Mr. Ferrall ends his interesting paper by the following summary.]

The reflections suggested by a review of the cases which led to the present inquiry, as well as of this new and curious mechanism itself, may be reduced to the following propositions:—

1st. That the description of anatomists, which places the globe of the eye in contact with the fat and muscles of the orbit is erroneous.

2nd. That there exists a fibrous tunic, investing and insulating the eyeball, and separating it from all the other structures in the orbit.

3rd. That the uses of this tunica vaginalis ocula are, to present a smooth surface, facilitating the movements of the eye; and by its density and tension, to protect it from the pressure incidental to the swelling of its muscles during their action.

4th. That the openings in this tunic perform the office of pulleys, giving a proper direction to the force exerted by the muscles,—securing the motions of rotation, and opposing those of retraction, which would otherwise predominate.

5th. That certain cases of disease within the orbit, accompanied by protrusion of the eyeball, are to be explained, only by reference to the tunica vaginalis oculi, and the other fibrous tissues now described.

6th. That a correct knowledge of the anatomy of the orbit and of the fibrous structures alluded to, is essential to the operating surgeon, in dealing with abscesses and tumours, in extirpation of the eyeball, in the operation for strabismus, and all operations on that cavity.

Dublin Journal of Medical Science, July, 1841, *p.* 329—356.

[The following quotation from the memoir of M. Bonnet, Surgeon to the Hotel Dieu, at Lyons, seems to apply to the same structure as the above; no doubt both Mr. Ferrall and M. Bonnet made their discoveries quite independent of each other.]

The eye is not in contact with the fatty matter of the orbit, as anatomists have stated; it is separated from it by a fibrous capsule in which it moves with facility. This capsule, concave and open within, is inserted on the anterior extremity of the optic nerve, and the two posterior thirds of the eye, without being in contact with them, and terminates on the eye-lids on which it is prolonged; the straight and oblique muscles traverse it to reach the eye, and contract with it intimate adhesions. They have thus two insertions; the one into the sclerotic; the other to the fibrous capsules; and they cannot move one without transmitting to the other all the movements they execute. *This has not hitherto been noticed by anatomists*, and we shall trace their operation on the movements of the eye and eye-lids.

[Mr. John Darymple, in his excellent work on the "Anatomy of the Human Eye," published in 1834, anticipated both the above gentlemen in describing the structure. He says:]

In tracing the muscles of the eye from their origins up to their insertions in the globe, we find them invested with dense membranous sheaths, much more strongly marked, however, upon their tendinous expansions, and which,

in fact, are here connected with each other to form a cellular investment for the anterior part of the eye as far as the margin of the cornea, and interposed between the sclerotic and conjunctival membranes.

From the cartilaginous pulley of the superior oblique muscle to the point of insertion of that muscle, we find this dense cellular membrane forming a complete canal, lined at its most anterior part with a mucous or muco-synovial membrane, affording a specimen of a true bursa mucosa. . . . The sheath which invests this tendon and those that are found on the inferior oblique and the ocular aspect of the straight muscles coalesce into one membrane, and *form a cellular capsule loosely adherent to the sclerotic coat as far back as the entry of the optic nerve.* Some mention was made of this investment at page 166; and it will be easily recognised by those who are in the habit of dissecting the human eye for preservation in spirits of wine, since without a removal of the capsule, this preparation always exhibits a ragged and un-neat appearance.

The use of this cellular capsule is to diminish the friction of the muscles playing over the globe of the eye, and to facilitate the motion of the organ, in a manner somewhat similar to the action of the interarticular cartilages of certain joints.

London Lancet, Aug. 28, 1841, *p.* 786.

[Mr. Bennett Lucas refers to the same structure, without, however, giving any physiological use, in his work on "Strabismus," as may be seen explained by him in a paper read before the Medical Section of the British Association, Aug. 2, 1841. See Prov. Med. and Surg. Journal, Aug. 14, 1841, page 384.]

59.—OBSERVATIONS ON TALIPES.

By James Braid, Esq., Manchester.

[We gave some original observations of this gentleman in our last number, respecting the dividing of tendons in paralytic states of the muscles. He has published another interesting paper in the Edinburgh Med. and Surg. Journal, on the subject of Talipes in general, and has also referred to the subjects of strabismus, stammering, and spinal contortion. We need not here enter into the origin of the operation, nor into the steps commonly pursued. It is a subject which has already been pretty well discussed.

Mr. Braid brings a case forward to prove that when a tendon has been divided and separated by extension, the two ends are united by the formation of new tendon, or by a substance which strongly resembles it. He affirms that the cause of malpositions constituting talipes is evidently the result of spasmodic paralytic seizures, of which there is ocular demonstration in the non-congenital cases. Having repeatedly tried every mode of treating these cases, from the division of a single tendon to that of the whole class of tendons which could bear upon the malposition, Mr. Braid proceeds to state—]

In a case of pure Talipes equinus, with rigid contraction, it will generally be found that not only is the tendo Achillis and plantaris implicated, but also the flexor longus pollicis pedis, and flexor longus communis, tibialis posticus, and peronœus longus and brevis. I am perfectly aware that, after dividing the tendo Achillis alone, forcible extension will be adequate to bring the foot into its natural position; but I am equally certain that it will be after much longer time has been expended, and much more torture has been endured by the patient than would have been the case had the tendons

of all the muscles named, or had as many of them as were found rigid, been divided at once. Moreover, I confidently affirm that if the whole are divided, and the foot brought to the natural position within four or five days, (if the operation has been been properly performed and the patient a healthy subject,) sufficiently firm reunion shall have taken place to enable the patient to extend the foot by the expiration of that period.

I had operated for one hundred and eight cases of club foot before I thought of dividing the tibialis posticus, and in some cases the flexor longus pollicis pedis, also, in pes equinus; but, observing the effect of dividing the tibialis posticus, and flexor longus pollicis pedis in a case of slight varus, by which the patient was instantly enabled to walk across the floor of my surgery, with his toes out and the soles of his feet flat to the ground, the idea occurred to me, that were they divided as well as the peronœus longus and brevis in cases of pure pes equinus, it would be an improvement. Whoever is familiar with the course of these muscles, from their origins to their insertions, must be at once convinced, as I was; and if not theoretically satisfied of this, if he will only try both plans in two similar cases, and watch their progress and termination, with an unprejudiced mind, he cannot fail to be a convert to this doctrine. Of course, if any of these muscles are relaxed or paralysed, it would be quite surperfluous to divide them; but as they are generally proportionately contracted as the tendo Achillis, it is reasonable to infer, that they should be elongated in the same manner as the others; and by doing this the patient is not only saved much suffering during the time of extension, but is in the less danger of a relapse than where they have been extended by mechanical force alone. This is the more necessary, as the antagonist muscles are generally in a paralysed or a weak state, and therefore they are less able to resist the tendency of the muscles which have been simply extended, from resuming their original state, on the removal of the mechanical extension.

The wounds being closed with adhesive plaster, the foot and leg should be bandaged as high as the knee, to retain the foot in its original malposition, and prevent the contraction of the muscles, the tendons of which have been divided. Absolute rest and spare diet should also be enjoined for a few days. These remarks are applicable to the operation for every variety. Extension should begin in two days, and in three or four the foot may be easily brought to a right angle with the leg. Where this plan is not adopted, the principal seat of pain will be found to be in the course of these undivided tendons, namely, around the external and internal malleolus and the sole of the foot.

For the same reasons, in cases of varus, I divide at once every tendon which can possibly retain the foot in its malposition, namely, Achillis, tibialis anticus, tibialis posticus, flexor longus pollicis pedis, and flexor longus communis, and abductor pollicis if required, and should there be much contraction of the sole of the foot, the plantar fascia as well as the short flexors. The wounds being closed, and the foot maintained in its original position, in two days extension may be commenced, so as to bring down the heel, and evert and flatten the foot at the same time, with all convenient speed, as far as compatible with the feelings and safety of the patient. The propriety of this will be sufficiently evident from the facts already stated, of the rapidity of the reunion of tendons so divided. The recommendation of treating such cases by dividing the tibialis anticus and posticus, and flexor longus pollicis pedis, only at first, and making such mechanical appliances as are required to bring the foot into the state of simple equinus, after which to divide the tendo Achillis, and extend, as in this variety, I consider objectionable on three grounds. First, it would retard the cure; second, it would be apt to cause too much new tendon to be inserted between the divided extremities of the tibialis anticus, and thus weaken the power of bending the foot; and third,

in order to avoid the pain and inconvenience of treating pure equinus by simply dividing the tendo Achillis, it would be necessary to divide a second time the tibialis posticus, flexor longus pollicis pedis, and flexor longus communis, as already recommended in the treatment of pure equinus.

In valgus the peronœus longus and brevis generally require division, and sometimes also the tendo Achillis, peronœus tertius, and extensor longus communis, and proprius pollicis pedis. In two days such splints as will produce and maintain necessary extension should be applied.

In calcaneous talipes, the tibialis anticus, extensor proprius pollicis pedis, extensor longus digitorum pedis, and peronœus tertius, generally require to be divided. Divide either the whole or as many as seem to bear on maintaining the malposition. In two days apply such mechanical contrivance as may be required to place and maintain the foot in its proper position.

Having restored the foot to its normal position, it is of great importance to ascertain whether the legs are of equal length. In most cases of single talipes, especially in equinus cases, the affected leg is shorter. This difference should be compensated for by a high-heeled boot, or shoe, as the leg may require, otherwise the patient will not only walk with a limp, but there will be a tendency to recurrence of the original malposition.

Having explained the tendons I recommend to be divided in the different varieties of talipes, and the principles upon which I found these recommendations, I shall now state the form of instrument which I prefer, as well as the situation for dividing the tendons named. Although, in the hands of a dexterous surgeon, any instrument may be adequate to perform the operation, still the size and shape of the knife is not altogether a matter of indifference. For adults I use a straight blade one inch and a quarter long and about one-twelfth of an inch broad. The point cut off at an angle of about 60°. This is less apt to transfix and leave any portion of the tendon undivided than the curved and sharp-pointed blades. It is less liable, moreover, to make a counter opening in the integuments. For infants and children a much smaller blade will suffice.

I divide the tendo Achillis about an inch and a half from its insertion in the adult, and proportionally less in younger patients, and prefer cutting from without inwardly; the tibialis anticus near its insertion in the os cuneiforme internum; the tibialis posticus near its insertion in the os scaphoides; the flexor longus pollicis pedis, and flexor longus digitorum pedis at the point of decussation in the sole of the foot, from within outwardly; and from this same wound, the plantar fascia also, when necessary. The peronœus longus and brevis are best divided together above the malleolus externus, but separately below it near their points of insertion; the extensor longus digitorum pedis before the point of separation into distinct tendons; the extensor proprius pollicis pedis, a little more inwardly, and the peronœus tertius in the same line or near its insertion, as preferred in the respective cases;—all these latter from within outwardly, the tendons being kept on the stretch whilst divided.

I now come to the principle of extension, and the apparatus by which it may be accomplished. The Stromeyer boards and Scarpa shoes, which have been generally used, are very good in their way, but have been found very inconvenient for general application, owing to their expense, especially in operating amongst the poor; and it therefore became necessary to contrive some plan which would be both effective and cheap. This, I think, I have attained, by the following simple contrivance. The price of a Stromeyer board is £2. 10s., besides straps and padding, which cost about 10s. more. A Scarpa shoe sells for £2. 10., their united cost being £5. 10s. for each foot. I consider my apparatus is as effective as both, and will not cost more than one shilling for each foot. It consists of a sole piece of hard wood deal, about three-eighths

of an inch thick, the length of the foot and breadth of the sole at its greatest width, with an edge two inches and a half deep, to rest upon the inside of the foot. The two pieces are fastened together with screw nails, and a notch cut in the sole pieces a little anterior to the malleolus externus, and in the side piece behind the root of the great toe, to allow the bandage the better to embrace the foot and make it lie close to the wooden sandal. This should be covered with sheet wadding or a pad, and to be bound firmly on the foot with a roller, or two or three straps and buckles. A piece of wood from two to three inches wide, and sufficiently long to reach from the foot to a little below the knee, with a notch at the bottom corner, and with an arm extending forwards to about three quarters the length of the foot, is now to be made fast to the foot and sole piece, by means of a bandage passing from the front of the leg-piece, under and round the sole piece and foot, and then under the posterior notch from without inwardly and over the dorsum of the foot, passing again round the foot and sole piece, and placed at an acute angle with the sole, so that it may have sufficient leverage to elevate the foot when the upright stem is carried back to the side of the leg. An assistant is now to be requested to place a little wadding or pad at the inner edge of the leg piece, and carry it back until it rest against the top of the tibia, the surgeon regulating the extension to what the patient can bear, by allowing the bandage to give way in the meantime, more or less as he judges necessary. He is now to pass the bandage round the foot, ankle, and leg, from the foot upwards, embracing also this lever, with such a degree of tension as he may judge requisite to secure and maintain the necessary degree of extension the case requires and admits of.

To every one at all acquainted with mechanical contrivance, it will at once appear that this is a combination of the lever and inclined plane; and that it is capable of producing any degree of power which is either safe or necessary for effecting the cure of any case to which it may be applied. According to the manner in which it is fixed, it is equally applicable to the extension required in every variety of talipes. The whole should be undone and re-applied once or twice a-day at first, and the foot bathed with spirit lotion; afterwards it may be repeated less frequently. Such are the practical precepts I have been induced to adopt in the cure of talipes from contraction, and having had an opportunity of treating more cases than any individual in the United Kingdom, I have no hesitation in recommending them to others, from the great success I have had since their adoption.

In the course of my investigations and practice, I found there was another variety of talipes, of pretty frequent occurrence, which did not arise from preternatural contraction, but from paralysis, or preternatural relaxation of certain classes of muscles, and for which the Stromeyerian operation was inapplicable. I was therefore desirous of discovering a remedy for it, and a very fortunate idea struck me, which has enabled me not only to treat such cases of talipes successfully, but also other affections of a paralytic nature. The idea was this; as cases of contraction were relieved and cured by division and elongation of tendons, might not the relaxed and paralyzed muscles be cured by the converse mode, namely, by cutting out a portion of the tendons of such muscles, bringing the divided extremities together, and securing their re-union in that state? It was so strongly impressed upon my mind that this would at least cure the flapping condition of the member, and might, moreover, stimulate the muscles to renewed vitality and contractility, that I resolved to try it. On the 30th of June, 1840, assisted by my friend, Mr. Rhind, surgeon, Edinburgh, my son, and my apprentice, Mr. Pacey.

The patient, six years of age, had been given up as the subject of hopeless paralysis for two years previous, after the failure of the most approved treatment, under able practitioners. The left leg was perfectly powerless, dang-

ling by the side of her crutch, without reaching the ground, much colder than natural, the foot assuming a slight degree of varus, so that when placed on the ground it rested on its outer edge, the heel slightly elevated, and the toes turned a little inwards. I excised 3-16ths of an inch of the peroneus tertius, dressed and bandaged so as to maintain the divided extremities in contact. In a week she could walk across the floor with the assistance of holding by my hand, and on the tenth day, in the presence of my talented friend, Dr. J. L. Bardsley, and others she actually walked across my surgery floor, and back again, without any assistance whatever,—a circumstance which equally surprised and delighted him and all present. In twenty days she put on a boot, and in another week walked entirely without the crutch, which she has done ever since. Besides the operation, nothing else was done excepting the use of a stimulating liniment, which she had used before without benefit. The results proved in the highest degree satisfactory.

[Mr. Braid then goes on to state his views and treatment in cases of paralyses of the muscles on the anterior part of the leg in which he excised a portion of the tendons. We cannot help here extracting these observations, although cases to the same effect were published in the 47th Article of our last number. He says:]

The general inference to be drawn from these and numerous other cases is this, that in about six days, the extremities of tendons from which a portion had been cut, and which were brought and maintained together in the manner named, are sufficiently firmly united to maintain the member in the desired position, and to restore muscular contractility or increased strength to such muscles as are weak, or have been paralysed for many years.

This operation, I believe, is entirely new, and, I hope, will be found an interesting addition to our curative means. I feel convinced it will answer in all such cases as those to which I have referred, if properly managed. It requires considerable care to execute it with that degree of exactness necessary; because, if too little be excised, it will not excite that degree of tone and contractility requisite for insuring sufficient energy; whereas, if too much be removed, it may produce rigid and permanent contraction of these muscles with enervation of the others, which require an entirely opposite mode of treatment.

It is a curious fact that a rigid and permanent contraction of one or two muscles may be sufficient to exhaust the whole nervous and muscular energy of the leg or arm where it occurs, so that there shall be a loss of heat, feeling, and muscular energy of the whole members, all of which may be restored, with so much rapidity, by simply dividing the tendons of the contracted muscles, that it would be no difficult matter to make superstitious people believe that a miracle was performed. Every one who has treated cases of club-foot must have observed the increase of temperature which follows the operation; but, in cases of contraction of the hand, and fingers, and arm, from any contraction of the biceps, long flexors of the wrist and fingers, &c. the division of their tendons have, in many instances, been followed by the most surprising results. Not only have the hands and fingers been set at liberty, but such increased energy restored to the whole arm, that patients of upwards of thirty years of age, who had been deprived of the power of lifting their arms for five or six, or more years, have, in the course of two or three minutes, been able to lift them to their heads. In one case, a patient upwards of 70 years of age, who had paralysis of the right side, and had been dumb for three years, in eight or ten minutes after the operation, was able to lift the arm pretty freely, and the following morning spoke for the first time since his paralytic seizure.

To maintain this advantage, it is necessary, so soon as the cutaneous

wounds have closed, to make extension, so as to insure a new portion of tendon growing into the point of separation, otherwise, on the re-union, contraction might be re-established, and with it the original feeble state of the member.

The only physiological reason I can offer as to the cause of the restoration of power and feeling after these operations, is this. I infer that a certain portion of nervous energy is sent to any member for the general supply of the whole of its functions, and that the quantity necessary to maintain these muscles in a state of morbid tension, produces enervation of all the others, with loss of tone, and languid circulation. The operation, by cutting off this profuse expenditure in one channel, allows it to flow for the general benefit of the whole, and hence the muscular power is restored, with freer circulation of blood, which will, of course, produce an increase of heat in the whole member. The operation is also frequently followed with increased vigour of the whole body. This was remarkably evinced in a boy on whom I operated for talipes, from contraction. He was ten years of age, paralytic of the leg, so that he had never had the power either of standing or walking on it, and so weak in his body generally, that he was a most pitiable object, leaning feebly over his crutches, unable to support his head erect. In three weeks after the operation, he was able to walk across the floor by the help of the hands. In a short time longer, he could walk with his crutches, supporting most of his weight on the leg, and supporting the head with ease; and ere long to throw his crutches aside entirely, and walk with a little stick in his hand. I could easily adduce other instances where weak and withered arms, almost from birth, have thus been restored both to power and increased size; but I fear it might encroach too much on your valuable pages.

Thus, the treatment of these varieties of talipes directed my attention to efficient modes of treating local paralysis, where one class of muscles was in constant rigid contraction; and also to another variety, not with morbid tension of the muscles, but where there was a morbid relaxation of one or more muscles. I found a third variety in which there was a morbid relaxation of the whole member, say a leg or an arm, with wasting of its substance, and it became an interesting inquiry, whether any other method could be devised to meet such cases. It is truly gratifying to be able to say, I have been so successful in this variety by a mode of treatment entirely new. I am actively engaged in investigating this subject, and intend, in due time, to lay it before the profession, when I have made some further observations on the subject. In the meantime, however, I shall give a few of the results, as witnessed by professional gentlemen of high talents, who have examined the patients, in some cases before I saw them, and again, in ten minutes after my application. It has succeeded in cases where the patients have had the benefit of all the most approved appliances which modern science has suggested, including electricity and galvanism; and it is equally successful in infants and children as in adults, whether male or female.

I had long entertained the idea that the functions of the nerves depended on a subtle fluid circulating within them; and it now occurred to me that friction over the ganglia, and gentle pressure over the course of the nerves leading to the paralysed parts, from their central to their peripheral extremities, might propel a greater quantity of nervous influence into these parts, and thus restore increased energy to them. Moreover, I thought, from the proximity of the arteries, that the same mechanical means would, independently of the increased nervous energy, send a greater quantity of blood along the arteries, and thus also tend to rouse the dormant muscular action. Having formed this theoretical view, I very soon had an opportunity of trying the experiment, and the results exceeded my most sanguine expectation, as a brief notice of the following cases may show. The great sympathy which exists betwixt the muscles and tendons with which they are connected, indu-

ced me to apply the same means along their course, especially over the insertion of the tendons of the weakest muscles. Any hard, smooth substance will answer the purpose, such as a strong, well made ounce phial.

This is, undoubtedly, a different view of treating such cases from that which avails itself of the aid of mesmerism or animal magnetism; and I believe is entirely new. Whether I am right or wrong in my theory, there is no mistake in the satisfactory results of the practice, as it has been witnessed by many, including professional and scientific gentlemen.

A girl, twelve years of age, had been paralytic for seven years, and for the last five the case had been given up as hopeless. The right arm was quite powerless, and the leg so uncertain in its action, that she walked very badly. In ten minutes after my application she walked much better, could move her fingers, and raise, bend and extend her arm. In three days she had a second application. In ten minutes after this, she could walk almost without lameness, and was so much improved in the arm, that she was able to feed herself with it from that time. By a few more applications she was quite restored, and continues now perfectly well.

Mrs. ——, the mother of a numerous family, had been paralytic of the right arm and hand for thirteen months. In ten minutes after my application she was able to grasp firmly with the hand, and move the arm freely, and when she went home the same day, surprised her family by extending her arm, and shaking hands with each of them. A few more applications made her quite well.

I shall only add one case more, that of a young man whose case engaged the attention of many of the most accomplished members of the profession, both in Scotland and England. He was a labourer in Edinburgh, and was under two of the most eminent professional gentlemen in that city, on the first appearance of his complaint, but without regaining the power of his arm. He afterwards went into Glasgow infirmary for some months, but derived no benefit. He then took to hawking for a subsistence, and got into three of the most respectable provincial hospitals in England, and afterward into three of the London hospitals, but was dismissed from all of them as incurable, after remaining many months in several. He had been afflicted in this manner for about five years and a half. When he called on me last October, the following was his situation. There was the most complete atrophy of the deltoid, biceps and triceps, and in a considerable degree, of all the other muscles connecting the scapula with the chest on the right side. In short, from the shoulder to the elbow there was nothing visible but the integument covering the bone, and he had not the least power of moving the shoulder or flexing the elbow. The muscles from the elbow downwards, were well developed, and he could move the finger and wrist freely. In ten or twelve minutes after my application, he was able to flex his elbow, and raise his arm, and swing it about in all directions. I made him exercise it for some time, which he seemed quite delighted to have the power of doing. He called again the same evening, and was examined by many who were present at the time. He called on me and had a repetition of the same means several times, and in about ten days left quite vigorous in his arm. There was a slight tendency to the same disease in the other extremeties, all of which improved in like manner.

Edinburgh Medical and Surgical Journal, Oct., 1841, *p.* 338–339.

60.—MODIFICATION IN THE OPERATION OF DEPRESSION FOR CATARACT.

By JOHN MORGAN, Esq., Surgeon to Guy's Hospital.

[Mr. Morgan makes the following observations on this subject, in the course of his excellent lectures now being published:]

I have more than once performed a modification of the operation for depression, which I believe to be new; it is one applicable only to those cases of cataract which occur in combination with disease of the vitreous humour. The first case in which I adopted the plan to which I allude, was that of a lady, a patient of Mr. King, your demonstrator of morbid anatomy, who was the subject not only of cataract, but was also affected by synchysis, a disease which consists, as you know, in a melting down, or softening of the vitreous humour, so that the consistence of this part becomes almost fluid. Now here, of course, extraction was out of the question, for a section of the cornea would have allowed the exit of, perhaps the whole of the contents of the globe. I tried the operation for depression, but found, that in consequence of the very great change which had taken place in the vitreous humour, the lens, after repeated attempts to keep it depressed, instantly rose to its former place. I then attempted the operation for solution, but as the cataract was hard, and apparently insoluble, no benefit was derived from this proceedure. Well, gentlemen, as the ordinary means of relief had failed, or were impracticable, and as I could not, by the plan I proposed to myself, make bad worse, I determined to try a new method of practice. I thought that although, while the parts were in situ, the buoyant power of the vitreous humour might, in its more fluid state, defeat the desired object of the operation in the manner I have described, yet, that it might be possible, by tapping the globe through the sclerotic, so as to evacuate a portion of that humour, sufficient to sink the lens below the axis of vision, I thought, I say, that by such a mode of proceeding a permanent depression of the cataract might be effected, by a newly-formed secretion collecting more readily above it, than immediately below it, in consequence of the presence of the lens in the lower part of the humour.

The operation I performed was as follows:—The patient was held as in the operation for depression; I then passed a large-sized needle with cutting sides through the sclerotic, about three lines distant from its conjunction with the cornea, a little below its transverse diameter, and as soon as the point had passed about an eighth of an inch into the globe, I drew its cutting edges vertically downwards, making in this way an incision, parallel with the corneal line of attachment of the sclerotic, and of about a quarter of an inch in length; a small portion of vitreous humour now escaped, but not sufficient for my purpose; I therefore made gentle pressure upon the globe until enough had been pressed out to sink the lens below the pupil; I think nearly one-fourth of the humor must have escaped: after the operation, a piece of linen kept constantly moist was applied over the lids—the head and shoulders kept raised, and the patient placed in a darkened apartment; on the following day, the globe had nearly recovered its size and form, the wound was inflamed, and no more uneasiness or pain was complained of, than what usually follows an operation for depression; the pupillary aperture was perfectly clear. No subsequent excess of inflammation followed, the wound in the scloretic healed kindly, the lens remained depressed, the globe recovered its natural appearance, and vision was so far restored, that the patient could read moderate-sized print with the aid of glasses. I have since performed this operation twice; in one case with success, the other terminated

unsatisfactorily; in both of these cases I used Beer's cataract knife, which answers the purpose better than the needle.

Provincial Med. and Surgical Journal, July 24, 1841, p. 390

61—ON A METHOD OF RESTORING THE LOWER LIP AFTER VARIOUS OPERATIONS.

By Andrew Buchanan, M.D., Glasgow.

[The reader will better understand this paper by referring to the original in the Medical Gazette, in which several wood engravings are given:]

No part of the body is more subject than the lips to tumours, and ulcerative affections requiring to be removed by the knife. In performing such operations, the conspicuousness of the parts renders it necessary to produce as little deformity as possible. This can only be effected by preserving or restoring, as far as we can, the natural form of the parts. In this way, also, we best accomplish two other objects—that of not interfering with the action of the lips as organs of articulation, and that of preventing the incessant and involuntary discharge of the saliva from the mouth.

When the tumour or ulcer to be cut away is of small size, the practice commonly adopted is, that of making two incisions in the shape of the letter V, and uniting them by the twisted suture. To this operation I can see no valid objection, if, after the diseased parts have been completely removed, the lips of the wound can be brought together without much traction. There is, however, an obvious limit to the practicability of this mode of operating. Whenever there is much of the substance of the lip involved in the disease, considerable traction is required to unite the lips of the wound, and there must be, thereafter, more or less retractive force tending to separate the parts, and tear asunder the newly-formed adhesions. In such circumstances the pins or ligatures are apt to excite inflammation and sloughing, and thus force us to abandon the attempt to produce adhesion. Still farther, even if we have succeeded in producing adhesion, the deformity may be considerable, and the cicatrized parts, from the traction to which they are subjected, and from pressure upon the gums and teeth, are apt to suffer from ulceration.

A mode of operating, which was much employed by Dupuytren, consists in simply removing the diseased parts by a semi-elliptical incision. The deformity produced in this way is much less than might be anticipated, as the action of the muscles in the substance of the lip, and the contraction of the wound, tend gradually to bring the cut surface to the level of the adjacent parts. In all mere affections of the prolabium, and generally, in all cases in which the lateral extent of the diseased parts is much more considerable than their depth, this operation appears to me entitled to preference. When, on the other hand, the disease, whatever be its natural extent, stretches deeply towards the root of the lip, Dupuytren's operation will be found to produce a deformity, which is not obviated by the subsequent elevation of the cut surface; and if it be the lower lip which has been operated upon, a constant discharge of saliva will likewise ensue.

There are, then, certain cases of diseases of the lip to which neither of the preceding methods of operating are applicable. These are, in the first place, cases in which it is necessary to cut away the whole lip, and secondly, cases in which the disease, though more partial, extends so deeply towards the root of the lip as to preclude the employment of Dupuytren's operation, and to such an extent laterally as to render impracticable the attempt to procure adhesion after the common angular section. In such cases it appears to me to be the best practice to form a lip by substitution from the skin of the

neighbouring parts. I propose here to describe an operation by which the substitution may be effected very completely, and without giving much pain, in cases of complete or partial removal of the lower lip; but the principle of the operation may be applied in cases of affection of the upper lip, or of other superficial parts.

The first time I performed this operation, was in the year 1835, on a man named Adam M'Gilvray, from Tolcross. He was 56 years of age: he had been affected with cancer of the lip for four years previously. Six months after the commencement of the disease, the scirrhus tumour, of which it then consisted, was removed by the knife. The disease did not recur till about two years and a half after the operation, or twelve months previous to his admission into the hospital, on the 13th of May, 1835. It then consisted of a ragged irregular ulcer, with hard, tumified margin, and involved the whole of the left half of the lip, and a considerable portion of the right. On the 20th of May I removed the whole of the lower lip by a semi-elliptical incision; and then proceeded to form a new lip in the following way:

The new lip was formed by means of two flaps taken from the sides of the chin, each bounded by a curvilinear incision and a straight one. The former incisions commenced exactly in the middle of the operation wound in the mesial line of the face. The straight incision again commenced at a point from half an inch to an inch distant from the angle of the mouth, in a line supposed to be drawn from that angle to the middle of the lower jaw at the same side. They extended, each in a direction parallel to that of the corresponding half of the operation wound, and were continued till each joined the curvilinear incision of the same side at its lower end. The curvilinear incisions were perfect aves of a circle described with the straight incisions as radius. Every point, therefore, of the curvilinear incision was equidistant from the point at which the straight incision commenced. In consequence of this arrangement, after the flaps were dissected from the chin and raised upwards so that the upper portions of them occupied the site of the lower lip, the lower portions fitted exactly to the spaces which had been previously occupied by the upper portions. In this situation they were secured by the twisted suture, adhesive plaster, and a bandage; the upper parts of each flap being united together, while the lower parts were united on each side to the summit of the triangular peak, situated in the middle line of the face between the two curvilinear incisions. By the elevation of the flaps, a vacant space was left under each; the deficiency in the region of the lip being, in fact, transferred to the two sides of the chin. In the artificial lip thus formed, there is, as in the natural lip, a protuberance in the middle of the upper margin.

Medical Gazette, Oct. 8, 1841, *p.* 79.

62.—THE COMPARATIVE ADVANTAGES OF CIRCULAR AND FLAP AMPUTATIONS.

By Rutherford Alcock, Esq.

[In a discussion in the Royal Medical and Chirurgical Society, on the results of Amputations performed at the North London Hospital, Mr. Alcock makes the following practical remarks, which he illustrates most fully by cases recorded in his very valuable Lectures published in the Lancet:]

With respect to the occurrence of secondary hæmorrhage, he quite agreed with Mr. Liston that the oblique division of the femoral artery was not a matter of importance. But he was not sure that the oblique division of the smaller arteries had not some influence in bringing on or permitting that ac-

cident. He had often thought that in the flap amputations, the small vessels retracted only partially, which, in circular amputations, would have retracted completely; or that the vessels in the former case were overlooked, which, in the latter, bleeding distinctly, would have been secured. Nothing, however, had convinced him more of the necessity of having accurate records of series of cases, and of not trusting to general impressions, than the results of amputations. In these questions, more than in any others, general impressions were apt to be erroneous, from the circumstance of the strength of the impression which single events, deemed at the time remarkable or important, make upon the mind. With respect to this very question of secondary hæmorrhage, for instance, he had himself gained a very wrong impression from two cases, which was not corrected till he had accurately ascertained the results of the whole series of those that had fallen under his observation. The two cases were these: In an epidemic from which the troops under his charge, suffered at Vittoria, the legs in several cases became gangrenous, and required amputation. In the first two instances, he amputated in each patient one leg by the flap, and the other by the circular operation; and in both these cases the flap operation was followed by secondary hæmorrhage; but after the circular, none supervened. The circumstance made such an impression on him that he entertained no doubt that flap amputations were more obnoxious to secondary hæmorrhage than circular, till he came to sum up the results of all his cases, or, at least, of all those of which he had a regular and well-kept series. The result of this examination was, that in 115 cases, of which 90 were circular amputations, and 25 flap amputations, the proportion of secondary hæmorrhages was somewhat greater in the former than in the latter.

In the second place, with regard to the liability to necrosis of the sawn bone in the two classes of cases, he did not think that any difference could be found between them: and it was the same with regard to the conical form of the stump, an event which he believed could only very rarely occur after either kind of amputation, if dexterously performed by a surgeon practised in the operation. As in the 115 cases alluded to it had occurred only twice, he could not draw any conclusion respecting its frequency in one or other operation. With reference to the main question of the comparative mortalities of each mode of operation, he has found that his results were by a fraction disadvantageous to the flap amputations. He was not, therefore, prepared to agree in what was said to be the growing opinion, that this operation would in time completely supersede the other. It was true that the flap amputation was a more rapid mode of operating than the circular, and to this, full weight must be allowed: for pain in itself is an absorbent of life, and is always followed by a re-action and a febrile disturbance, that may have an important influence on the recovery of the patient. At the same time he thought that the difference in this respect between the two modes of operation had been overrated. Eighty or ninety seconds were ordinarily sufficient for the performance of the circular operation; and if the flap amputation were done in fifty or sixty, the difference of the time during which the patient was in each exposed to pain, was really not so great that much importance could be attributed to it. It did not appear to him, therefore, that on this ground there could be any just reason for discarding the circular mode of operation. A more important point seemed to him to be involved in the question of the after treatment of the stump. There was nothing of which he was more certain than that the idea of the advantages of union by the first intention, which was so commonly held in this country, was greatly exaggerated, and he would go so far as to say that, in some cases, such a union was not only of no advantage, but was actually mischievous, and dangerous to the life of the patient. For patients, after the immediate union of the wound, would often, as he had himself seen, die of the very diseases which were said

to result from the wound remaining open. In a primary amputation, after an accident in a healthy man, it was no doubt most natural to desire that the wound should be healed as quickly as possible; and probably, in these cases, it was best to try to obtain a union by the first intention. But in secondary amputations, and in those performed for diseases of the limbs, when the incisions were made through diseased tissues, there was no use whatever, but, he believed, a disadvantage, in bringing them together. They would almost invariably open again, and place themselves in the position in which they had better have been left from the first. This was especially the case when limbs were amputated for diseases which had been connected with a considerable discharge. In all these it was dangerous to stop the discharge too suddenly, and it had been proposed to make an issue near the end of the stump, to keep up an artificial drain to replace that which had been cut off. But this method he thought, would be very inconvenient, and such indeed as could scarcely be put in practice; another, which he had sometimes adopted, and which seemed to fulfil all the intention, consisted in passing a skein of silk through the lower part of the wound, and thus maintain, for a time, a constant irritation and discharge of matter which afterwards might be gradually reduced.

Medical Gazette, May 21, 1841, *p.* 362.

63.—CAOUTCHOUC THREAD FOR SUTURES.

By Thomas Nunneley, Esq.,

Surgeon to the Leeds General Eye and Ear Infirmary; and Lecturer on Anatomy, &c., in the Leeds School of Medicine.

[The following additional observations on this useful improvement in our ligatures have been made since our last number was published. There is no doubt that in many cases this elastic ligature will prove a decided advantage. Mr. Nunneley says:]

The thickness of the thread which I should recommend for ordinary sutures is about one-sixteenth of an inch in diameter when cold. This on the application of the warmth of the hand, speedily contracts to *one-sixth* of its previous length, and becomes highly elastic. When cold it retains its shortened and elastic condition for any length of time, but it readily admits of being stretched to somewhat more than its original extent, by winding it tightly round any solid body, and allowing it to remain upon it for some time; if the temperature be below 80° F., it will then continue elongated, but if above this point, on the extending force being removed, it immediately contracts again.

In order to determine with more accuracy the extent of the contraction of the caoutchouc thread, the degree of the heat at which this takes place, and in what circumstances the disposition to contraction and consequent elasticity is equally maintained, I performed the following experiments:—a piece of the thread, nine feet long, and of about the one-sixtieth of an inch in diameter, drawn through the mouth, held in the closed hand, or before the fire, immediately contracted to eighteen inches, or one-sixth of its original length. On being forcibly stretched out it measured eleven feet, but on the extending force being removed, again contracted to eighteen inches. On placing a portion of the same length in water at 80° Fah., no change in it took place; at a temperature of 85° Fahrenheit, it slowly and irregularly contracted in knots to four feet eight inches, which length it retained when taken out and cold. If the water was 90° F., the thread instantly and uniformly contracted to eighteen inches, and whatever be the increase of the tempera-

ture up to 212° F., no further shortening took place. In a dry heat the effect is the same, only not manifested quite so rapidly, and at first I was inclined to think two or three degrees higher temperature were required, but I am now satisfied that this is not so, and that it is dependent upon the caloric being less readily communicated by the air than by water.

When the thread is thicker than the sixtieth of an inch, the contraction does not amount to five-sixths of its entire length, perhaps to the four-fifths or three-fourths, but in other respects the effects are the same. All retain their respective lengths when cold, and all maintain the elastic property when warm. Thus, if a piece be wound tightly round the finger, it continues to impress it with an equal degree of force. Hence before the suture be introduced, I should recommend that the thread be immersed in warm water of *not less* than 90° F.; by this, ligatures, which possess an uniform degree of elasticity, are always obtained, and the surgeon can readily estimate how tight he should draw the ligature in tying it. In doing this he should bear in mind the nature of the injury, the density of the part affected, and its present condition, by which he ought to regulate the degree of tension which he gives the suture; thus, if he expect much swelling he should only draw it so tight as in the first instance to merely maintan the parts in apposition; if, on the contrary, there already be much swelling, he would draw it rather tighter in anticipation of the subsidance of the tumefaction. But so elastic is the contracted thread, that I apprehend it is *much more* to be feared that the tension given will be too great than not sufficient, and would suggest attention to this point; because if it be, the great object in the use of these sutures is not obtained, and they will cut their way out as soon as the fibrous unelastic ligatures, as I have recently witnessed; when, however, this is attended to, the threads will remain for many days without producing any irritation. In a case where a large tumour had been removed, and where four of the caoutchouc threads were inserted, at the expiration of a week there was no ulceration about the sutures, which were only then removed because the wound had united.

In the Lancet of March 13th, 1841,* to which I refer for a statement of the advantages which I think the caoutchouc ligatures possess over those made of any fibrous material, I mentioned that previous to being introduced, the threads should be smeared with a little oil; this I find to be unnecessary, as it passes perfectly well without, and its employment renders the knot more liable to slip than if not used.

As in the contracted state in which the thread is introduced it is considerably thicker than when stretched out, or than the ordinary ligatures, it appears somewhat bulky when passed through the needle eye: in consequence, however, of its elasticity, it does not form nor require so large an aperture as would *a priori* be supposed. Should this be thought an inconvenience, it may be easily be obviated, by using a needle in which a greater proportion of the blunt end is filed away, so as to leave but a small bar at the eye; or by using a needle made with a split instead of an eye, into which the thread is put, in the same manner as is practised with some seton needles. Mr. Simpson has just made me some needles of this latter description, which are very well adapted for the purpose. I would recommend that the thread should not be cut into lengths for each suture, but that one should be introduced, and then the other from the same thread; if this be not done, much of the material will necessarily be wasted, on account of its elasticity. I would also further suggest, that the thread should be kept in its concentrated state; for although it maintains its elastic condition, and appears unchanged for some weeks, yet I am inclined to think, after a lapse of several months, its tenacity is not quite equal to that which it possesses just after it has been made to contract; and as the contraction is the work of only a minute, and

* See Retrospect of Medicine, No. 3, Art. 48.

merely requires the thread to be held in the hand, or placed in warm water, there can be no difficulty in always having freshly contracted ligatures.

Another purpose for which I think the caoutchouc thread appears to be well adapted, is the dressing of wounds where adhesive plaster cannot be retained. There are some persons whose skin is so irritable, that adhesive plaster of any kind always produces inflammation; and there are many contused and lacerated wounds, where it is highly desirable to bring the gaping surfaces in contact, and also to produce some degree of pressure upon the detached or torn parts; while at the same time, fomentations and poultices, or cold lotions, are necessary. In these cases plaster cannot retain its hold, as by the moisture its adhesive properties are destroyed. I propose, when the injured part admits of it, and in the majority of cases it does, as nine out of every ten of these are accidents to some part of the extremities, to bind it up by encircling it with a portion, longer or shorter as may be required, of the caoutchouc thread. By this any degree of pressure and co-aptation may be obtained, and at the same time neither sutures nor plaster are required, while apertures are left for the free discharge of matter, should it form, and the warm application comes in direct contact with the injured part; or should cold lotions be used, it is easy to interpose between the wound and the threadlike bandage, a piece of gold-beater's skin or lint, and thus completely exclude the air from the raw surface: an advantage which I believe to be of more importance than, perhaps, some surgeons imagine.

Before concluding, I may allude to a very different class of affections, in which it appears probable that this elastic material applied as a bandage, might be used with advantage; as yet, I have not had an opportunity of putting the idea to the test, but think the proposition so reasonable, that I shall do so the first time a suitable opportunity presents itself,—I mean, in cases of strangulated hernia, when reduction cannot readily be effected, but particularly those which are large and of long standing, where, also, the ring is of considerable size; and the difficulty arises rather from the increase and incarceration of the contents of the sac, than from compression from a narrow ring. In these cases inflammation rarely occurs very high; but when it does, it is apt to be of that diffuse character which is the most to be feared after opertions. In the cases of which I speak, well regulated pressure will generally be successful in effecting the reduction, and I know of no means by which it can be more directly, gradually, and equally applied: yet, at the same time, without violence or forcible kneading of the hernia, than by surrounding the whole tumour with a long string of caoutchouc thread; of course, the application should commence from the bottom of the hernia, and pass uninterruptedly up to the neck. For this purpose I should recommend a thread of about double the thickness of that proper for sutures; or what would be still better, the material in the form of a narrow tape, which, wound spirally round, would completely encase the rupture. By this a degree of pressure quite as great as it is prudent to employ, may be obtained; for I am by no means certain that I have not witnessed several cases where the death of the patient ought not much rather to be attributed to the injury inflicted upon the gut and the peritoneum by the repeated and forcible squeezings to which it is very often subjected, in the anxious efforts to effect a reduction of the hernia by the taxis, than to any other cause. Now it seems reasonable to suppose that some portion, frequently gaseous, of the contents of the sac, may be expelled by the long-continued and powerful, because elastic, pressure of the caoutchouc as now recommended, especially as all other means and applications may be enjoined. It may be well to state, that the thread may be procured of Mr. Simpson, 55, Strand, London.

London Lancet, July 3, 1841, p. 505

64.—CATOPTRICAL EXPLORATION OF THE LENS.

By Dr. Watson.

This mode of exploring the eye, first invented by Professor Purkinje of Breslaw, has come into general notice only since N. Sanson published his clinical observations on the subject. 'The young practitioner ought never to pronounce absolutely, even on the existence of cataract, without dilating the pupil by *belladonna* and examining the eye *catoptrically*; and the most experienced may derive advantage from exposing in this way the whole field of the disease to his view, and testing the state of the crystalline.'

If a lighted candle be held before the pupil of a sound eye, three reflected images of it are seen situated one behind the other. Of these, the anterior and posterior are erect, the middle one inverted. The anterior is the brightest and most distinct, the posterior the least so. The middle one is the smallest.

If the candle be moved, the two erect images follow it; but the inverted image moves in the opposite direction, though not so quickly and extensively as the other two.

The anterior erect image is produced by the cornea; the posterior, by the anterior surface of the lens; and the middle or inverted image is from the posterior surface.

If the whole crystalline body be opaque, no image but the anterior erect one from the cornea is seen. This is, of course, the case also if the anterior part alone be opaque; but if it is the centre or the posterior part only which is opaque, the two erect images are seen, but the middle or inverted one is not.

To apply this catoptrical method to assist the diagnosis of cataract, when the ordinary mode of examination may not have cleared away all doubt, 'the observer and the patient should be placed in moderate day-light; the patient's back is to be turned towards the window; he should be seated so that the observer may look rather down into the eye than upwards; and a candle is to be used which burns steadily, and does not blaze much.

Cataract, even at an early stage, obliterates the inverted image, and renders the deep erect one very indistinct. Glaucoma, only when much advanced, obliterates the inverted image, while, in all its stages, it renders the deep erect one more evident than it is in the healthy eye.'

Dr. Mackenzie has found that in glaucoma, at a middle stage, the inverted image is pretty distinct, when formed near the edge of the crystalline; but if the candle be brought in front of the eye, the inverted image is less distinct, and in some cases is altogether extinguished. This extinction of the inverted image is owing to a loss of transparency in the kernel of the lens which, in glaucoma, Dr. M. has found, suffers a peculiar degeneration, characterized by dryness of substance, and a reddish brown colour.

In incipient lenticular cataract, the inverted image, though changed neither in colour nor in size, is indistinct, and its outline as if washed off. It is extinguished long before the cataract is fully developed—a fact of the greatest importance, Dr. M. remarks, in the diagnosis betwixt glaucoma and cataract, because in lenticular cataract, it is not the kernel of the lens, but the superficial laminæ, which are first affected, so that the formation of the inverted image by any part of the posterior surface of the crystalline body is prevented.

'In capsulo-lenticular cataract, the inverted image fades much sooner than in mere lenticular cataract; and even when the capsule, or the superficial substance of the lens, seems to be alone opaque, the inverted image disappears much sooner than we should expect from the apparently moderate degree of opacity.

In lenticular cataract, there is merely a general reflection, but no distinct image, from the anterior surface of the crystalline body.

'If the lens is not in its place, but has been absorbed in consequence of an injury, been removed by an operation, or fallen down into a dissolved vitreous humour, neither inverted nor deep erect image is formed.

'In the diagnosis of incipient cataract and incipient amaurosis, the catoptrical test is perfectly decisive; for in amaurosis, uncombined with glaucoma, the three images are always distinct, while in even the early stage of cataract, the inverted image is obscure. The diagnosis of incipient cataract and incipient glaucoma requires the catoptrical test to be familiar to the observer, else he may not be able to distinguish, that when the candle is held in the axis of the eye, the inverted image is indistinct in both diseases, but whenever it is moved to one side, it becomes distinct in glaucoma, and remains obscure in cataract."*

Cyclopedia of Practical Surgery; and Medico-Chirurgical Review, July, 1841, *p.* 136.

65.—USE OF INJECTIONS IN GONORRHŒA.

By W. Acton, Esq., late Externe at the Female Venereal Hospital, Paris.

[Under the head of "Abortive Treatment" in Mr. Acton's valuable work on Syphilis, he makes the following excellent remarks on the injections which are found most successful in Gonorrhœa:]

At the commencement of a discharge from the urethra, and previous to any redness around the orifice, or pain felt in making water, the surgeon will frequently be able, at once, to cut short the affection, and cure his patient; under other circumstances, this plan will not avail. It consists, in addition to the general means spoken of under the head of abortive (?) treatment of blennorrhagia, in employing, during the succeeding forty-eight hours, twelve injections of nitrate of silver at regular intervals: the strength of the solution of the salt should be, two grains to the ℥viii. of distilled water. Let the injections be then left off, and cubebs or copaiba be given in the doses above spoken of. If the cases be recent, and the disease not too far advanced, this treatment will succeed, fifty times in a hundred cases, in checking the disease; and there is no fear of occasioning stricture, or swelled testicle at this period of the complaint. Under this treatment the running will at once cease; but to complete the cure, it will be necessary to continue the cubebs, diminishing gradually the dose. No further recourse should be had to injections, as a continuance in their use would only tend to keep up irritation; at the end of fifteen days the surgeon may allow his patient to resume his usual habits.

The Direct Treatment consists in the employment of injections. Of all those I have seen employed, no doubt exists in my mind that by far the greatest benefit is derived from the nitrate of silver. The strength of the solution should be two grains to eight ounces of distilled water. To employ this properly, the following directions should be attended to: during the forty-eight successive hours, twelve injections should be thus used; let the patient place himself on the edge of a bed or chair, and having previously charged a glass syringe with the solution of nitrate of silver, let him hold it perpendicularly, introducing it perfectly parallel with the urethra; if he now gently push on the injection, the fluid will easily enter the urethra, and come in contact with every portion of the canal: no pressure is required on the perineum, as the force employed is not likely to push the fluid far into the canal. As to its reaching the bladder, and the danger that attends it, I can assure my readers this is chimerical, as any one must be convinced who has

* Mackenzie, p. 640–641.

ever attempted to inject the bladder; to effect that, a catheter must be employed, and a strong syringe. Even supposing the solution to reach the bladder, the smallest quantity of urine will decompose the nitrate of silver. I have seen, purposely, not only injections, but the solid stick of nitrate of silver, introduced into the bladder without any ill consequences following.

A glass syringe is recommended; and we should be careful to tell the patient that a pewter instrument decomposes the salt, and renders it less efficacious. Should we inform him that the solution is one of those preparations which act on pewter, he would refuse to employ it on the score that if the solution acted on the metal, it would, as a necessary consequence, injure the urethra.

The liquor should be injected cold, and a common sized syringe, only half filled, will be sufficient, as the urethra does not hold more than that quantity.

Soon after the injections have been employed, there will appear a reddish-looking discharge; this should not prevent the patient from continuing the twelve injections at intervals of four hours, notwithstanding any slight pain which may occur; a slightly purulent, rosy discharge is a very favourable sign, as it shows that the disease will rapidly yield.

We have dwelt at some length on the cases for which injections are suited, on the period, the strength, and manner of employing them, because we have the firm conviction that they have not been hitherto correctly appreciated: they have been either too freely praised, or too absolutely rejected, without sufficient trials.

Various other injections have been recommended; and Mr. Carmichael, particularly, some years ago, proposed another method, which differs materially from the one we have just spoken of. He advised that injections of nitrate of silver, containing ten grains to the ounce of water, should be used. He purposely caused an inflammation, to destroy the special catarrhal one, and stated that gonorrhœa might be cured by this means. He further treated the inflammation of the urethra, which he had occasioned by antiphlogistic means, and on the disappearance of the inflammation, he states both complaints were cured.

M. Ricord, in speaking of the merits of this treatment, says that such means will cure a great number of cases; but the surgeon plays a game of double or quits: if the disease be not cured, its violence is increased in a relative proportion, which is not unattended with danger; hence, he has long since desisted from employing injections in the acute cases of gonorrhœa.

With respect to the method of employing injections, we can personally speak of their great advantage, having seen them employed in a great number of cases during the last three years, and *in no one case* have we seen either stricture or swelled testicle follow their employment in the treatment of the affection at its commencement.

Dublin Journal of Medical Science, Sep. 1841, *p.* 136.

68.—USE OF MORPHIA IN STRANGULATED HERNIA.

By David Bell, M.D., Carlisle.

[Dr. Bell brings forward the following interesting case to show the efficacy of morphia in this affection. He was first induced to try this remedy instead of the usual nauseating medicines, from observing the great prostration of strength and total relaxation of the system, which followed a large dose when given to subdue agonising pain in different parts.]

Being called to Mrs. C——, aged 55, of somewhat delicate constitution, I found her laboring under all the symptoms of strangulation of the intestine, and on examination felt a protrusion from the left formal opening about the

size of a pigeon's egg. I was told by the patient that she had been the subject of this affection for several years, and that, on one occasion, two medical gentlemen had used every endeavour by the taxis &c., for hours, and were on the verge of an operation before they succeeded in its reduction. The tumour, when I first felt it, was pretty tender to the touch, (having been much handled by the patient in her attempts to reduce it,) and after I had used the taxis, with every reasonable change of position that might be favourable, for nearly two hours, the parts became so tender that she screamed aloud at the slightest touch. I resolved, therefore, on a trial of the muriate of morphia, and prescribed one grain in an ounce of distilled water, with the addition of a drop of muriatic acid. The one half was taken immediately, and the remainder in half an hour afterwards. The result was, that symptoms consequent upon a large dose of this medicine (for one grain is such *when genuine*,) shewed themselves in less than an hour,—the patient felt, to use her own expression, as if she had "lost all power." There was a clammy moisture of the skin, with some drowsiness, and on applying her hand to the swelling, in a half unconscious manner, it gave way under the slightest pressure, and disappeared.

Previously to giving publicity to this case, I considered it prudent to avail myself of others, should they occur: and having been called to a lady, aged 60, of rather delicate constitution, on the morning of 2d January, to relieve her of a "violent vomiting and pain in the bowels," I was led from the symptoms, to examine the groin, when I found a femoral hernia much of the nature of that just detailed, and endeavoured to convince the patient that this was the entire cause of her sickness and pain, but failed. She insisted upon having something to relieve her sickness; and after I had tried the taxis in vain, I ordered a sinapism to the pit of the stomach, administered the muriate or morphia as above, and with equally satisfactory results.

I would not say that one grain is by any means the highest dose that I should venture upon; on the contrary, I think that a quarter to half a grain more might be administered every half hour, until the symptoms were such as to forbid its further use with safety, or till the desired effect was produced. Nevertheless, as already hinted, very great caution is to be observed after one grain has been given,—always bearing in mind, that the purity of the medicine and the idiosyncracy of the patient, may most materially affect the result.

As the patients forming the subject of this paper were both of rather delicate habit, I would hint, that in very plethoric or robust individuals, there might be a just prudence exercised in previously abstracting a quantity of blood.

London and Edinburgh Monthly Journal of Medical Science, Sept. 1841, *p.* 653

[This practice is corroborated by that of Dr. A. W. Davis, of Presteign, who publishes the following case :]

I was at the house of an eminent surgeon in this neighbourhood, when his assistant arrived with intelligence, that all the means used for the reduction of a case of strangulated hernia had failed, and that the operation must not be longer postponed. The assistant, a member of the College of Surgeons, had been with the patient during the preceding night, and had neglected none of the ordinary means constituting the taxis. Finding that opium had not been given, I suggested the employment of a large dose, and a teaspoonful of laudanum was immediately given. This producing no effect, after waiting two hours, another teaspoonful was given. This was almost immediately followed by prostration of the muscular system, a dilatation of the pupil in a remarkable degree, and the easy reduction of the hernia. The patient was a strong muscular man, a farmer's servant.

I deem this the more worthy the notice of members of our association, because I derived the hint from my excellent friend Dr. John Conolly, in con-

versation, when I had the pleasure of seeing him at the Anniversary Meeting at Oxford. The benevolent mind of Dr. Conolly will be gratified to learn, that an incidental remark of his, saved at least one individual from a painful and dangerous operation.

Provincial Medical and Surgical Journal, Aug. 28, 1841, p. 494.

67.—APPARATUS FOR APPLYING WATER IN THE FORM OF IRRIGATION.

By Dr. James Macartney, F.R.S., &c.

[The term irrigation is applied to the practice of water being continually dropped or dribbled on different parts. In France this is done by a bucket holding water, being suspended above the patient, and the water allowed to drop from the cock half turned upon the part. An improvement upon this, is to make a syphon with pieces of worsted, or other material of a porous nature, and having a vessel of water in the neighbourhood of the part to be irrigated; one end of the syphon is placed in the water, and the other on the limb or part to be irrigated; and by this means the water is made to dribble beautifully, according to the wish of the surgeon. Dr. Macartney has contrived the following apparatus:]

The apparatus consists of a box made of zinc, something like a fracture-box, in which either the upper or the lower extremities of the patient may be placed. The water, or a medicated fluid, is carried in a flat tube, which at one end is connected with the reservoir, and the other end projects through a slit in the upper edge of the box. The tube contains a strip of coarse woolen cloth, which is broad at one end and pointed at the other. The broad end is received by the vessel that contains the fluid, and the pointed end either rests upon the dressings of the affected part, or is suspended immediately over them. The water is taken up by the strip of cloth, and carried along it on the principle of capilliary attraction, or in the manner of a syphon; and thus a continued supply of water is conducted to the part affected, without inconvenience or exposure to the patient. In order to get rid of the fluid, there is a concave bottom, perforated with large holes, through which the fluid passes into the inferior part of the box, and from which it is conveyed by a tube into any vessel that may be placed outside the bed for the purpose of receiving it. The perforated bottom, for the sake of cleanness, is made to take out; and there is a soft cushion, covered with painted linen, on which the limb rests, and consequently the whole is not kept wet.

The quantity of fluid which may pass can be regulated by placing the vessel or reservoir containing the water either higher, or on the same plane as the patient's bed. If placed high, so much as three gallons of fluid may be supplied in the course of twenty-four hours. If warm water be required, as in cases of strains and lacerated wounds, the temperature of the reservoir may be kept up by means of a spirit lamp.

The irrigating machine is made and sold by Messrs. Weiss and Son, instrument makers, 63 Strand, London.

The advantages of such an apparatus as I have described, are sufficiently obvious to all persons acquainted with the effects of moisture at different temperatures, according to the nature of the injury, in appeasing the sensations, and in preventing or abating inflammation.

Provincial Medical and Surgical Journal, July 31, 1841, p. 362.

66.—RADICAL CURE OF HYDROCELE.

By M. VELPEAU, Paris.

For the radical cure of hydrocele, M. Velpeau considers none of the numerous methods that have been used by surgeons so fitting as that of injection of the cavity. He expresses his surprise that the surgeons of London, Berlin, and America should still perform dangerous, long, and bloody operations, instead of the one he is in the habit of using. We think that since the publication of Pott's excellent treatise on this disease few surgeons in this country have deserved this reproach of M. Velpeau. But he himself recommends incision of the sac, in cases where the contained fluid is thick, or where the coats of the tunica vaginalis are so hard, thick, and solid that injection of the sac will fail to cure the disease; and in cases where the sac has degenerated into a stony or osteo-calcareous shell, or into lardaceous matter, he recommends excision. In the radical cure of hydrocele M. Velpeau has been in the habit of using an injection of tincture of iodine instead of wine or other stimulants, and he considers it to have the following advantages: a small quantity only is required, half an ounce to an ounce; it produces no ill consequences even if allowed to remain in the sac; it does not cause any serious injury if injected into the cellular tissues; and lastly, it is almost uniformly successful. The cure also is more prompt, being effected in eight, ten, or twenty days. If there be swelling of the testicle, this also is frequently cured by the injection; and in cases where the swelling appears unaffluenced by the operation, M. Velpeau has found that at the end of five or six months it has entirely disappeared. The proportion of iodine used by the professor is two or three drachms of the tincture to an ounce of water; he has even used the pure tincture without any bad consequences: he considers that the reason why M. Fricke of Hamburgh has failed in his operations, is that he has not made use of a sufficiently strong injection. M. Velpeau, reasoning from the relief afforded to the cases of acute hydrocele by puncture of the tunica vaginalis, has employed this means also after injection with the iodine solution, and has found that the tumour has been thereby much more rapidly discussed. One of the most eminent hospital surgeons of London has for some time been in the habit of using iodine solution in the radical cure of hydrocele, and he has the same opinions of its efficacy as M. Velpeau. It is necessary to prepare the solution of iodine with the hydriodate of potass. In congenital hydrocele M. Velpeau recommends the iodine injection, while at the same time pressure is made on the inguinal canal.

[On the subject of gonorrhœa M. Velpeau offers some judicious observations, many of which, however, have long since been anticipated by Ricord, Acton, and others.]

In the treatment of this disease M. Velpeau has tried the effect of iodine, balsam of storax, and gunpowder, each of which remedies has been recommended by some surgeons, and he finds these therapeutical agents useless. He discusses the respective merits of copaiba and cubebs. Patients do not suffer so much from the exhibition of the latter as of the former, and the tone of the stomach is sometimes to a certain degree improved by the cubebs; but the combination of these two medicines in the proportion of one part of the copaiba to two of cubebs, produces the most beneficial results This form of medicine has been recommended by Mr. Liston in the last edition to the Elements of Surge[illegible] M. Velpeau believes that the rheumatism, which has been said to be caused by copaiba is more probably induced by the disease for which it is administered. The rash produced by this medicine is of no consequence. Besides these specific remedies, M. Velpeau recom-

mends in acute cases, general blood-letting and leeches to the perineum, and where there is much thickening of the urethra, he has found friction with mercurial ointment of great benefit. The application of small blisters from the anus to the scrotum, as recommended by Mr. Poirson, has been occasionally useful in cases of old standing.

In the local treatment of this disease, M. Velpeau considers the objection to injections absurd; the abuse only and not the use of these remedies is to be condemned. Sulphate of zinc is, in the opinion of the professor, of no use in recent cases of discharge from the urethra. In gonorrhœa of long standing or in gleets, in very small doses its effects are beneficial; one grain to the ounce of water is the proper proportion. Nitrate of mercury has also been recommended, but is far inferior to nitrate of silver, combined with compression of the urethra. The injection should contain one grain of the salt in every ounce of water, and is used at the same time that the cubebs and copaiba are exhibited internally in the early stages of gonorrhœa. The injection should not be continued longer than three days (about three times a day,) lest it produce a fresh irritation in the urethra. This canal should be kept constantly compressed by means of small graduated compresses, dipped in starch, applied from the bulb to the fossa navicularis, and retained by means of a bandage. M. Velpeau's plan of treatment is in all respects one which we should be inclined to recommend, and which we have for some time been in the habit of using, with the exception of the compression of the urethra, of which we have had no experience.

British and Foreign Medical Review, Oct., 1841, p. 458—459

69.—ON THE EMPLOYMENT OF NITRATE OF SILVER IN WHITE SWELLINGS.

By M. Jobert, Surgeon to the Hospital St. Louis.

By a series of accurate and conclusive observations M. Jobert has shown that the best and most prompt means of overcoming articular pains in cases of white swelling, and to make the turgescence of the tissues disappear, consists in the external employment of an ointment of the nitrate of silver. We have watched on fifteen patients the action of this remedy, in the wards of M. Jobert, and have been astonished at the prompt effects in long-continued and previously rebellious diseases. The treatment consisted in frictions on the diseased articulation with an ointment composed of thirty parts of lard to four of nitrate of silver. If the action of this be insufficient, M. Jobert uses eight or twelve parts of the salt to thirty parts of lard. These ointments, designated by the numbers 1, 2, 3, constitute the whole of the treatment. Twelve or fifteen hours after the first employment of the ointment, and generally after the second friction, an eruption of small accuminated pustules appears, presenting a black point in their centre, and surrounded at their circumference by a small rosy areola. The liquid contained in the vesicle at first resembling thick milk, and rapidly assuming a yellowish-white appearance, afterwards becoming true pus. Each friction is accompanied by pains which last three or four hours. About the second or third day the skin becomes of a violet colour, and smarts acutely. The frictions must then be suspended, and not renewed until the parts are calmed. We do not enter into further details, as a full memoir on the subject is promised.

[It is very extraordinary that such accurate pathologists as the French should so generally continue to class as "*tumeurs blanches*" the very different diseases to which the joints are subject. We are thus left in doubt whether the above cases were scrofulous enlargement of the artic-

ular extremities of the bones, ulceration of cartilage, disease of synovial membrane, or of parts external to the joint.—*Editor of Brit. and For. Med. Review.*]

British and Foreign Medical Review, Oct. 1841, *p.* 550.

70.—TREATMENT OF BURNS BY SOAP.

By Thos. Williamson, M.D., Physician to the Leith Dispensary, &c.

[Dr. Williamson's treatment of burns by soap may raise a smile, but is nevertheless found to be successful: and on account of its simplicity, and of its being always at hand in cases of emergency, will no doubt be more generally adopted. He says:]

The mode in which I am in the habit of employing it is this:—A common shaving box may always be procured, from which a good lather may, in the course of a minute or two, be easily obtained. This lather is then gently laid over the burnt surface by means of a shaving brush, and repeated as soon as the first coat begins to dry, or the pain returns. This practice ought to be repeated occasionally during the day, or until such time as the pain is relieved. The benefit accruing to the patient is *immediate*, and the result of the practice highly satisfactory; for in the most superficial burns, if early applied, vesication is prevented, and in the course of a few days, desquamation of the cuticle follows, without leaving a raw surface. Of course, this, as a remedial measure, is most applicable to superficial burns; but even in such cases as involve destruction of the more deep tissues, is not used without advantage, in so far as the personal comfort of the patient is concerned. In such cases, after the lapse of a few days, the crust formed by the soap is easily removed, so as to permit the employment of other medicines, if necessary. I am not prepared to say whether the benefit and instantaneous relief, following the application of the lather, are to be ascribed to its chemical composition, or simply to the fact of its affording some degree of protection from atmospheric agency, or both.

Medical Gazette, Sept. 17, 1841, *p.* 978.

71.—ON THE EXCISION OF JOINTS.

By Bransby Cooper, Esq., F.R.S., Surgeon to Guy's Hospital.

[Mr. Cooper relates two interesting cases of this kind in his "Reports of cases requiring Capital Operations," published in the last number of Guy's Hospital Reports, and concludes by the following practical remarks:]

Operations of this nature are much more successful in joints which have been, as it were, prepared for them by a long course of diseased action, modifying and diminishing their vitality, than in healthy articulations. A joint, of which the structures and functions have been gradually modified by morbid processes, may be exposed, and partially or wholly removed with perfect safety; but such an operation will be attended with much more dangerous symptoms where there has been no previous chronic disease.

The operation of excision of the joint is better suited for the upper than the lower limbs; because the actions of the former are more independent of each other; and the latter moreover, have to support the whole weight of the body, and require greater strength than is afforded by a new joint. Then,

again, the diseases and injuries of the knee-joint are generally much more serious than those at the elbow, and their constitutional effects more alarming. The lower limbs having to act in concert during locomotion, the one supporting the body, whilst the other advances; if any motion remains in the new knee, it becomes less useful than an artificial support. The operation is indicated when it is evident that nature can only effect a cure by anchylosis, and when at the same time it is plain that the constitution is unequal to endure the prolonged and exhausting irritation attendant upon the exfoliation of bone and protracted discharges. Of course, the more the disease has been confined to the structures of the articulation itself, and the less the bone has suffered, the greater will be the probability of a successful result.

I may here remark, that in operating upon the elbow-joint, the inner incision should be carried close to the olecranon process, so as to run no risk of injuring the ulnar nerve, which should be then drawn inwards by a metal retractor. It will not be injured by this step; being protected by the adipose tissue, in which it lies imbedded, and by which, indeed, it is completely hidden. The outer incision should be made sufficiently distant from the olecranon to leave the extent of space required for the removal of the diseased parts; which is much facilitated by flexing the elbow-joint, after the transverse incision has been made. It has been recommended to divide the triceps muscle from the olecranon preliminarily, in order that, after the latter has been removed, it may be re-united with the ulna; but I do not think that such a union can occur, except by means of adventitious matter, which in all cases is deposited, and which is always sufficiently firm and continuous to maintain the function of the muscle, and protect the posterior part of the new joint.

With respect to the results and general bearings of the operation, I think the principal benefit derived from it is, that it lays open and perfectly exposes the affected tissues, and thus facilitates their separation; in order to effect which, Nature would otherwise have to form sinuses and ulcerations. The advantage gained by it, is better estimated by the extent of surface exposed, than by the quantity of bone removed; no more of which should be brought away than is evidently affected by disease, which, we shall generally find, is confined to the articulating surfaces.

Great care is requisite as to the angle at which the limb is kept during the progress of anchylosis: for if it is finally left in an awkward position, it is not very uncommon for patients to desire amputation, rather than be burthened with a useless member.

Guy's Hospital Reports, Oct. 1, 1841, *p*, 373.

72.—GRUBER'S EAR SPECULUM.—LAPIS DIVINUS IN OTORRHŒA.

By J. H. Curtis, Esq., Surgeon to the Royal Dispensary for Diseases of the Ear.

[In examining the meatus auditorus externus in cases of otorrhœa, Mr. Curbis uses Gruber's speculum, which differs both from Kramer's and Itard's.]

Inasmuch, says Mr. Curtis, as the shield does not form one solid piece with the remaining portion of the instrument, but can be detached from it, and left behind in the meatus, to protect its parietes, while caustic or other applications are made to the diseased parts. By the means of an adapting screw, connecting the handles, they may be kept more or less apart, at the will of the operator, and according to the exigencies of the case.

The surgeon is better enabled to attend to the case, and to do whatever is requisite, when both his hands are at liberty, as they are when the shield can be

detached from the handles and left in the meatus, than if one of the hands was employed grasping an unwieldy instrument, to say nothing of the danger of an unforeseen movement of the patient throwing the speculum out of its place, and perhaps, doing other mischief.* When I am desirous of ascertaining the exact condition of the membrana tympani, after I have passed the speculum, I am in the habit of using Gruber's lamp, which has a strong reflecting lens attached, by which the light is powerfully thrown into the meatus, and on the membrane, in such a manner that its pathological condition can be readily ascertained. I have found it of material service in making those investigations into the state of the meatus, which are requisite in all cases of otorrhœa.

[Mr. Curtis then goes on to describe a very useful preparation in cases of discharge from the ear, viz: the lapis divinus. He says:]

When visiting the hospitals at Prague, I found the lapis divinus in very general use in the treatment of otorrhœa, and I afterwards found it employed in a similar manner at Vienna, Munich, Berlin, Leipsic, and Hamburgh. At Prague I procured some of the lapis divinus, and the formula for its preparation; the latter is as follows:

Take sulphate of copper, nitrate of potass, and alum, of each sixteen parts —powder them separately, and then mix them well together; fuse them in a glass vessel in a sand bath, and add one part of powdered camphor; break the mass in pieces when cold. This formula is varied in different pharmacopœias, there not being quite so much of the principal ingredient, the sulphate of copper, in some, while others substitute the acetate for it; for my part I prefer the sulphate. On my return to this country I determined to give it a trial, and have experienced much advantage from its use, as the following case will testify. I should state, however, that the preparation I employ consists of two drachms of the lapis divinus dissolved in an ounce of distilled water, a drachm of this solution being added to six ounces of rose or distilled water; this latter constituting the injection I recommend, and which I direct to be thrown into the meatus twice a-day. I begin with a weak solution, increasing the strength as I find it can be borne by the patient. Thus used, it does not cause any pain; it acts as a mild stimulant and astringent, and gradually produces a cessation of the discharge.

Case 1.—Mr. M., of Dublin, aged fifty, has had a discharge from the left ear for sixteen years, attended with deafness consequent on fever; on examination with Gruber's speculum and lamp an ulcer was detected on the membrane of the tympanum, which membrane was perforated by it. The treatment just described was adopted; he came to me for about a month, during which time he improved materially; he afterwards pursued the same plan under my directions; the ulcer healed up, the discharge ceased, and a cure was effected, his hearing being at the same time restored.

Case 2.—Mrs. F., the widow of a clergyman, deaf seven years with the left ear, attended with a profuse, offensive discharge, tinged with blood, which she attributed to having caught cold in her confinement, It was a singular and interesting fact in the case, that the discharge seemed to alternate, or be vicarious with the catamenia, diminishing when they were present, increasing on their cessation. Inspection by Gruber's lamp and speculum showed on the membrana tympani a large ulcer with rough edges, and inclined to bleed. The edges were touched with a strong solution of the lapis divinus by means of a bougie passed into the ear, the meatus being protected by the shield of the speculum, which had been previously applied with that view. Under this treatment the ulcer improved, and a cure was gradually effected by means of

* As the shield is composed of two half pieces, one or both may be retained in situ according to whether it is required to make the applications to the membrane of the tympanum, or to the lining membrane of the meatus itself.

a weak injection. The progress of the case was somewhat retarded by erysipelatous attacks affecting the auricle: an alterative plan of treatment was adopted in this case.

Case 3.—John Poverell, aged fourteen, a dispensary patient, has laboured under a very offensive discharge from the ear, tinged with blood, and attended with partial deafness for three years, the sequelæ of scarlet fever. The membrane of the tympanum was sound. The injection was used for three weeks, at the end of which time he was cured of the discharge, and had regained his hearing.

Case 4.—Mary Lowers, aged thirty-seven, a dispensary patient, has been quite deaf for ten years with otorrhœa and polypus, resulting from a cold, according to her account. The polypus was removed with the aid of forceps, and the neck touched with a strong solution of the lapis divinus, the meatus being protected by the shield of the speculum. Under this treatment, jointly with the use of the injection, the part healed, the discharge ceased, and the hearing was restored.

London Lancet, July, 3, 1841, *p.* 510.

73—IODINE IN OPACITY OF THE CORNEA.

By Dr. Lonsse.

The case in which this remedy was successfully employed was one of opacity of the cornea consequent on syphilitic ophthalmia, and so considerable as almost completely to destroy vision. The iodine was given internally, and from four to six drops of the following collyrium were let fall into each eye three times a day.

℞. Iodini, gr. j.; Potassii iodidi, gr. ij.; Aq. dest. ℥vj. M.

Afterwards this was exchanged for an ointment consisting of iodine, gr. jss., iodide of potassium, ℈j., and lard, ʒss., of which a small portion was once or twice a day put between the eyelids. The cure was perfected in three months.

British and Foreign Medical Review, July, 1841, *p.* 258.

74.—USE OF COMPRESSION IN MAMMARY ABSCESS.

By M. M. Trousseau, and Contour.

In this memoir there are two distinct parts; one devoted to the description of abscesses of the breast, the other intended to recall the attention of practitioners to a curative means too much neglected in their treatment, namely, compression. The following is the mode in which it is to be applied:—It is to be accomplished by strips of plaster, broad, and sufficiently long to go several times round the body. The surgeon, standing by the side of the patient, must first fix one of the extremities of the strip at about the middle of the back, then carry it towards the side of the chest, then pass it over the breast, beginning from the lowest part, then obliquely from below upwards to the outer third of the clavicle on the healthy side, and then obliquely downwards across the back, so as to cover the extremity of the slip already fixed. Following this course several times, he must take care that the portion of the band applied each time covers the two upper thirds of the preceeding turn. But it is easy to see, that if the bandage is always carried in the same direction, the breast cannot be completely covered; and that, on the other hand, as its several turns go across the clavicle of the healthy side, the movements of the shoulders would tend to displace it, and the lower part of the breast might be soon uncovered. Other strips of plas-

ter are therefore applied, which, proceeding from the anterior and upper part of the abdomen, ascend, crossing the first obliquely; then pass under the axilla, and return, after passing over the posterior part of the chest, to the part where they were first applied, and then are carried again along the same track, covering each time the upper thirds of the strip last applied. The breast is thus completely covered by the bandage, which is prevented from rising by this last described, which ought to cover only the upper part of the breast.

To compression thus employed the authors attribute many advantages. In the first place, it immediately relieves the pain; it combats and diminishes the inflammatory engorgement, at whatever period it is applied. When employed after opening the abscess, it decidedly favours the evacuation. And although when employed too long, at a period when the process of suppuration is active, it might have the disadvantage of making the pus extend over a larger surface, yet this may be avoided by removing the bandages at a time when it is probable that matter has fairly formed. If this be done, and the abscess opened, the bandages may be again applied, after two or three days poulticing, with good effect.

Med. Gazette, Sep. 10, 1841, *p.* 959.

75.—ON THE APPLICATION OF OIL VARNISH TO THE IMMOVEABLE APPARATUS, IN FRACTURES OF THE LIMBS OF CHILDREN.

By M. Tavignot, House-Surgeon of the Hospital of Children's Diseases.

When the common immoveable apparatus is applied to the fracture of the lower limb of a young child, at the end of two or three days it becomes perfectly moveable by saturation with urine, and therefore totally incapable of maintaining the fractured parts in apposition. After some trials with glazed silk and spirit-varnish, which were soon permeated by the fluid, M. Tavignot found that oil-varnish answered the purpose extremely well. The best mode of using it is to apply the starch-bandage first and this having become completely dry, a layer of the varnish is to be smeared over its whole external surface, and also over its superior border and part of its internal surface by a fine brush. The limb is then to be exposed to the air in warm weather, and to artificial heat in winter. Another layer of varnish is to be applied in about two hours, being applied especially on the parts of the limb most exposed to the action of the urine. When the layer has dried, the ordinary coverings of the limb may be replaced, and the urine then glides over the surface of the bandage with great facility without affecting it in the least. M. Tavignot has placed a bandage thus prepared in constant contact with urine, by putting it in a vessel full of this fluid without altering its consistence in any degree.

This is not the only advantage, for the apparatus can be removed without cutting the bandages, by placing the child in a warm bath, for the water insinuates itself between the bandage and the limb, and so softens the former by dissolving some of the starch, that the limb is readily unrolled.

Paper steeped in this varnish appears likely to prove highly useful to the surgeon in protecting parts exposed to the action of acrid or irritating fluids.

[The composition of this varnish is not given. It is probably the common size-varnish of our oil-shops.]

British and Foreign Medical Review, Oct, 1841, *p.* 544.

76.—EXTRACT OF BELLADONNA IN THE REDUCTION OF PARAPHIMOSIS.

By Dr. Miesot, of Bordeaux.

A child, three years and a half old, was the subject of severe paraphimosis; the glans red, swollen, and tender; the prepuce strongly drawn back

forming a thick and apparently adherent ring, the constriction of which completely stopped the circulation. This state had lasted eight days, and the sufferings were excessive. Reduction being impossible, leeches were applied to the perineum and hypogastrium; cooling drinks, emollient enemata, cataplasms, lotions, and hip-baths were used, but they only gave slight relief and but for a short time. The strangulation became more menacing, and all the symptoms were aggravated; the glans were bluish and gangrene was threatened, when M. Mignot employed frictions around the glans, with an ointment composed of thirty parts of simple cerate to twelve parts of extract of belladonna. Under the influence of this remedy the circle of constriction relaxed, dilated, and the tissues gradually recovered their normal condition, without loss of substance or suppuration following.

The second patient had acute balanitis, brought on by a severe gonorrhœa, and followed by paraphimosis. The patient refused operation, although gangrene was threatened, when the belladonna was applied, which induced relaxation and rapid amendment. It was also applied in a case of phimosis accompanied by chancres and a sympathetic bubo, and three days after its employment the dilatation of the preputial orifice was complete.

British and Foreign Medical Review, Oct. 1841, *p.* 556.

77.—REDUCTION OF HÆMORRHOIDAL TUMOURS.

Much difficulty is sometimes experienced in returning protruded hæmorrhoids. Pressure alone, is applied in vain. But if the patient be directed, Dr. Marshall Hall says, to make a forcible expulsive effort, and pressure be simultaneously made, the tumour frequently recedes immediately, the sphincter is positively relaxed, the ligature which it formed round the tumour is removed, and the reduction is easy.

Dr. Hall inquires whether a similar measure would aid the accoucheur in returning prolapsus uteri?

American Journal of Medical Science, July, 1841, *p.* 201.

78.—TREATMENT OF URINARY FISTULÆ.

By M. Ricord, Paris.

At the meeting of the Academie de Medicine on the 20th of April, M. Ricord presented a patient whom he had cured of a urethral fistula, situated at the inferior part of the penis, by means of an opening made into the membranous portion of the urethra, through which he introduced a catheter into the bladder. This catheter he allowed to remain; and when the urine had ceased to flow through the primary fistula (which was not till after two months had elapsed), M. Ricord revivified its edges, and then united them with sutures. When the union was completed, the urine again took its normal course, and the opening made in the perineum soon after cicatrized.

*Medical Gazette, Aug.*6, 1841, *p.* 766.

79.—ISINGLASS PLASTER.

Mr. Liston has for many years been in the habit of using, after operations, and for other surgical purposes, a plaster consisting of oiled silk covered with a coating of isinglass.

The following is the method of preparing it:—Moisten an ounce of isinglass with two ounces of water, and allow it to stand for an hour or two until

quite soft; then add three ounces and a half of rectified spirit, previously mixed with one ounce and a half of water. Plunge the vessel into a saucepan of boiling water, and the solution will be complete in a few minutes.

Having stretched the oil silk on a board, by nailing it round the edges, apply the solution of isinglass with a brush, taking care to move the brush evenly, and in the same direction, making it smooth as you proceed—as in varnishing a picture. When quite hard and dry, apply another layer, in the same manner, but moving the brush in the opposite direction, in one case horizontally, and the other perpendicularly. In this manner apply four coats of the solution, or even a fifth, if the surface be not entirely smooth. The last layer should be reduced in strength by the addition of a little more water and spirit. An ounce of isinglass is sufficient for about a square yard of the plaster.

The following precautions should be observed:—The distance between the nails should not be more than an inch and a half, otherwise the oil silk will shrink in festoons, and will not remain flat. The isinglass must be well soaked in water, before the spirit is added, otherwise it will not make a complete solution: and the spirit, when added, must be diluted with a portion of the water, to prevent precipitation of the isinglass. The brush must be a flat "hog tool," such as is used for spirit varnish, and well made, otherwise the hairs will be found to come out, and this is an inconvenience, as the operation must be performed quickly, while the solution is warm. The solution when cold, should be of the consistence of blanc-mange.

Repeated experiments have shown that gelatine does not answer the purpose as a substitute for isinglass, either alone, or in any proportions. A sample is on the table, in which the first three layers were composed of a mixture of the two substances, and the last is pure isinglass; in another sample only isinglass was used, and it will be seen that the latter is much more adhesive.

The oil silk has been in a great measure superseded by the use of a membrane, consisting of the peritoneal covering of the *cæcum* of the ox, rubbed down, and carefully polished in the manner in which the common goldbeater's skin is prepared. The following is the report of this plaster, furnished by Mr. Ancrum, Mr. Liston's assistant at the North London Hospital:

From the extreme thinness of the plaster, the wounds can be examined without its removal. It adheres much better than plaster made with isinglass spread on silk; and in the first instance of its application becomes firmly fixed. It is difficult to fix the isinglass plaster spread on silk, unless it is very good. From the extreme tenuity of the membrane plaster, it is equally unirritating with goldbeater's skin; and when once applied it remains so accurately adherent, that it does not require to be changed for many days. Altogether, after a good deal of experience in all the different plasters, we find it the best uniting material that has ever been produced.

In applying the isinglass to the membrane plaster, the directions already mentioned, with reference to the oil silk, may be observed, but a layer of drying oil is spread on the other side of the membrane.—*Pharmaceutical Transactions.*

Medical Gazette, Oct., 15, 1841, *p.* 125.

80.—CURE OF CROOKED NOSE BY SUBCUTANEOUS DIVISION OF THE CARTILAGES.

By Prof. Dieffenbach.

[Dr. Dieffenbach remarks that the wrynose is either a natural deformity, or is caused by accident. He has operated in two cases with complete

success: in one, the deformity was congenital, and in the other, it was caused by a fall. He thus describes the operation:]

With a small curved bistoury I made a puncture by the side of the bridge of the nose, at the point of union between the cartilage and the bone, the bistoury was then carried under the skin, so as to separate the cartilage of the side and bridge of the nose from the bone. By a second puncture, on the other side, the middle partition of the nose and the cartilage of that side were divided.

The nostrils were then stuffed with lint, and the nose retained in its proper position with strips of plaster. The parts healed quickly, without inflammation or suppuration.

Wochenschrift fur die ges Heilkunde, 1841, *p.* 617.

81.—CURE OF THE SLIGHTER DEGREES OF STRABISMUS WITHOUT DIVISION OF THE MUSCLES.

By Prof. Dieffenbach.

Dr. Dieffenbach states that he has cured the slighter degrees of strabismus by snipping off a piece of the conjunctiva with the subjacent cellular tissue, near the insertion of the rectus muscle on the side from which the eye diverges. He states that a larger piece of the conjunctiva must be removed when the eye is turned outwards than when it is turned inwards, because, when the eye is turned inwards it is generally occasioned by the greater power of the internal rectus: but when the eye is turned outwards there is generally paralysis, or at least, a weak state of the rectus internus.

Wochenschrift fur die ges Heilkunde, 1841, *p.* 581.

82.—HEREDITARY PTOSIS.

By Signor Alessi.

In the Gazette Medicale we have an extract from an Italian medical journal giving an account of a very extraordinary case of hereditary ptosis. The patient presented himself to M. Alessi, with chronic ophthalmia of the right side, when he observed that the upper eyelid of the left side was so relaxed as to cover about a third of the pupil. On questioning the patient, it was found that this affection was hereditary, his father having suffered from it, as well as his son and grandson; and to increase the singularity of the case, the deformity changed side with each generation. M. Alessi visited, and examined the man's son and grandson, and found them affected as had been described. He attributes it, not to atony of the elevator muscle, or paralysis of the 7th pair, &c., but to a flattening of the supra ciliary ridge, especially towards the outer angle: so that the integuments, not being supported on the usual prominence, fall over the eye-ball.

Gazette Medicale.

83.—MALIGNANT LOOKING ULCERS OF THE FACE, REPUTED CANCEROUS, CURED BY ANTI-SYPHILITIC REMEDIES.

By M. Payan.

Three very interesting cases are narrated by M. Payan, surgeon to the Hotel Dieu d'Aix. The first, a woman aged fifty-two, had frequented the hospital two years, for an ulcer, which commenced at the root of the nose, eating away the skin, subcutaneous cellular tissue, and at length producing

caries of the nasal bones, and opening a passage into the nasal fossa. She had undergone the usual routine of treatment without any benefit; herself, and surgical attendants deeming the ulcer cancerous. Suspecting from other causes, that she was affected with syphilis, at the time when it commenced, M. Payan prescribed the usual anti-syphilitic regime, which he used when the system had become profoundly affected, viz: mercury, so as to affect slightly the system, sudorific tisan, and a dry farinaceous diet. This treatment commenced June, 1838; after pursuing it for twenty-eight days, an evident amelioration took place: the mercury was suspended for eighteen days, when it was again given. The ulcer daily improved, the edges cicatrized, and on the 13th of Sept., instead of an ulcerating surface, a small foramen only was visible.

Case 2.—March 12th, 1840, a robust looking woodman, presented himself at the hospital with a suspicious looking ulcer on the upper lip, with the desire of having it excised, as his medical attendant had told him that it was cancerous. The surrounding tissues were hard, and had a true scirrhous appearance. On interrogating the patient, he was led to suspect its syphilitc origin, and prescribed mercury and sarsaparilla internally, and mercurial frictions around the ulcer. April 4th, the mercurials were suspended on account of the ptyalism induced: the sarsaparilla was continued till the 26th April, when the ulcer was entirely healed, and the patient discharged cured.

M. Payan mentions another case, in which an ulcer on the side of the forehead, though evidently syphilitic in its origin, presented a somewhat cancerous apperance. General anti-syphilitic remedies had been used without any benefit, mercury internally, sarsaparilla, preparations of gold, &c. The writer prescribed a local application of mercury in the form of a solution of the bichloride in water. On the 26th day after the application, a regular cicatrix replaced the ulcers, which for several years had appeared intractable.

Gazette Medicale.

34.—OCULAR MYOTOMY IN CERTAIN CASES OF AMAUROSIS.

By M. Petrequin.

M. Petrequin of the Hotel Dieu de Lyon, has made a communication on this subject to the Academie des Sciences of Paris. "The theory of analogues rendered it probable, and strabotomy has demonstrated, that the motor system of the eye exercises considerable influence over its nervous system. From what I have observed in those who squint, I have been led to conclude that certain cases of amaurosis have for their primary cause a spasmodic condition of one or more of the muscles surrounding the globe of the eye. It is now a scientific fact, that muscular spasm exists in strabismus, it is not less true that in most cases, there is also considerable weakness of vision in the deviating eye. Myotomy then may become an heroic remedy against amaurosis depending on contraction of the muscles."

The author of the report then gives two cases, one of amaurosis of the left eye, in which the light returned immediately and completely after the operation. In the other the amelioration, though decided, was not so perfect.

SUBCUTANEOUS MYOTOMY IN ENTROPION.

M. Petrequin in the same report recommends subcutaneous myotomy for certain cases of entropion. He says, "I have recognized the fact, that there are certain cases of entropion produced exclusively by a permanent contraction of the orbicularis muscle. The blepharospasm so often accompanying

scrofulous ophthalmia, has at once served us as indication and a proof of this fact. This, then, is truly a *muscular entropion*."

He gives a case of complete success, in which he performed the operation in the following manner. He placed the instrument on a level with the floor of the orbit, (the lid being held extended,) passed it under the skin, and the orbicularis, up to the free edge of the eyelid, taking care that no fibres escaped division superiorly; the instrument was then carefully withdrawn, assisting the division by pressing on the eyelid with the finger.

Gazette Medicale.

95.—SUTURE OF THE CONJUNCTIVA AFTER DIVISION OF THE ADDUCTOR.

By M. Cunier.

M. Cunier has addressed a letter to the Academie des Sciences, from which the following is extracted: "In order to avoid the prominence of the globe of the eye, which almost always takes place in consequence of the fall of the caruncula lacrymalis in the internal angle after division of the adductor, for convergent strabismus, I have used the following means:—By aid of a very fine curved needle, I pass a suture through the two flaps of the conjunctiva. Adhesion takes place on the third day, when I draw the suture away. The thread I use is not waxed. It never produces any sensation, nor the slightest inconvenience. I have used more sutures when the wound was extensive. It is not prudent to retain the edges of the wound in immediate contact, which might cause the strabismus to continue after the operation: the design of the suture is to maintain the caruncula in its place.

When the eye has been drawn outwards after division of the internal rectus, I have succeeded in retaining it exactly in its proper position by means of a suture at the inner canthus.

I have used the suture in more than 100 cases, and always avoided the deformity of the inner canthus, justly mentioned as one of the imperfections of the ordinary method of strabotomy."

Gazette Medicale.

96.—EFFECTS OF IMMOBILITY ON THE ARTICULATIONS.

By M. Teissier.

M. Malgaigne has shown in a very interesting treatise that any apparatus, which renders completely immobile the articulations of a fractured limb, brings on, more frequently than is supposed, an impossibility of moving these joints. He supposed that this is owing to the formation of false anchylosis. The writer of this article goes further, and states, that a true anchylosis often ensues. He brings forwards three cases of anchylosis of the patella with the femur, to which naturally there is no predisposition. "It has been objected that these anchyloses may result from the inflammation produced by the fracture extending to the joint, and not simply by its immobility. but we have shown that they frequently occur in joints far removed, as in the ancle after fracture of the thigh. Anchylosis produced by fibro-cellular bands, has been often observed, here it is plainly owing to loss of motion." Hence

1st. It is dangerous to imprison for several months, in an immoveable apparatus, the articulations of a fractured limb.

2nd. That the joints should be left free to execute movements sufficient to induce the synovial exhalation.

3rd. That we should commence gentle motion as soon as the callus is formed.

Gazette Medicale.

87.—PSEUDO-STRANGULATIONS OF HERNIÆ.

By M. Malgaigne.

[M. Malgaigne has presented a very interesting paper on this subject to the Academie Royale des Sciences, of which the following is a short *resume.*]

The writer first attacks earnestly the proposition laid down by Pott, "that the operation for hernia is not dangerous in itself," and which has exercised such a pernicious influence over modern principles. He says, "In order to establish the true chances of the operation, I have collected all the operations of hernia which have been performed in Paris by myself and colleagues, during a space of five years and some months from 1836 to 1841. I have found that in one hundred and eighty-three operations there were one hundred and fourteen deaths; as to age, I have found that from fifty to eighty years there were seventy deaths in ninety-seven operations, that is, about three-fourths."

As to the cause of hernia, "authors state that *l'engouement* from accumulated fecal matter produces it. Is it true, then, that excrements do habitually accumulate in hernias of some standing? There is not, there cannot be hard substances, nor even fecal matter except in the large intestines; and hernias of the large intestines do not constitute a twentieth part of intestinal hernias. Thus, then, this *engouement* described in books cannot possibly exist in ninety-five cases out of one hundred; and even in hernias of the large intestine, never have I found a single case in which there was accumulation of fecal matter. I go further, I have collected all the authors I have been able to procure, I have collected all the cases in which the cause of the disease has been made manifest, either by operation or autopsy, and have only met with one case in which there was really accumulation of fecal matter in the intestine."

"I have, like all other surgeons, paid a fatal tribute to this fatal doctrine: I operated in a case of pretended *engouement*—there was neither engouement, nor strangulation, and the patient died. You will find mistakes of the same kind committed by Percival, Pott, Dupuytren, and Astley Cooper. As to the *engouement* of authors, it is a creation of pure imagination, it is really a hernial peritonitis disguised, which is the accident most commonly supervening in cases of hernia."

As to the means of discriminating between this inflammatory action, and real strangulation, he brings forward the following propositions:—

1st. In all old intestinal hernias, which have never been restrained by a truss, or in which the truss has been disused for a long time, there is no real strangulation; the ring or rings being much larger than is required by the size of the pedicle of the hernia. This general fact results from all the observations which I have made either on the living or the dead. I have found no exception.

2d. In the pure epiploceles of whatever size, it is most frequently either an adhesive or suppurative inflammation, which is mistaken for strangulation.

3d. Consequently in these two cases, when well marked, the operation is always irrational; and, besides taxis at the beginning or end of the inflammation, the treatment should be entirely antiphlogistic.

Gazette Medicale.

88.—CYANIDE OF POTASSIUM IN ACUTE ARTICULAR RHEUMATISM.

By M. Malherbe.

M. Malherbe gives a case of acute rheumatism attacking the articulations of a chlorotic young female. Leeches were twice applied, with temporary relief, but followed by a relapse of the severe pains. He then prescribed compress to be applied over all the joints affected, and moistened with a solution of cyanide of potassium, (10 grs. to one ounce of distilled water.) In forty-eight hours the rheumatic pains had entirely ceased.

[This appears a valuable addition to our sedative remedies in this troublesome disease. It has been previously recommended by Professeur Trousseau, as a local application in severe headache, and in other neuralgias.]

Journal des Connaissances Medico-Chirurgical.

89.—ON CLUB FOOT.

By Dr. Guerin, Paris.

[In an elaborate paper on this deformity, this eminent practitioner sums up his views as follows:]

1st. All the forms or varieties of congenital club-foot are the result of muscular retraction, the elements of which are differently distributed and combined in the muscles of the leg and foot; the retracted muscles in each variety of club-foot are those whose temporary contraction causes a similar physiological movement; whence it results, that every club-foot is but the permanent exaggeration of the form of a corresponding physiological motion of the foot.

2nd. All the varieties of club-foot are simple or compound; simple, when they are exclusively the result of retraction of the muscles which preside over the special form of the variety; compound, when to retraction of these muscles is joined, but in different degrees, that of the greater part of the muscles of the foot and leg; in such a way that the same muscles may be retracted in the different varieties of club-foot, and the varieties of this deformity are as often due to the combination of the degrees of retractions as to its situation.

3rd. The special forms of pes equinus are the product of retraction of the gastrocnemii, solei, and flexors of the toes; those of varus of that of the anterior and posterior tibialis; those of valgus of the lateral and anterior peronei; those of talus of the anterior tibialis, the long extensor of the toes, and the anterior peroneus, with complete or incomplete paralyses of the gastrocnemii and solei. The forms of the varieties of association which result from the combination of these principal varieties amongst themselves are the product of the simultaneous retraction of the same muscles, to which must be added, as accessary or complementary elements of deformity, retraction of the short extensors or flexors of the toes; of the adduction of the great and little toe and of the plantar aponeurosis; and in a word, of all the muscles of the leg and foot.

4th. The surgical treatment of congenital club-foot ought to comprehend the section of the tendons of those muscles, whose retraction causes the pathological form of the foot; when the heel is elevated, the tendon Achilles; when the foot is turned on its external edge, the tibialis anticus; when on its internal, the anterior peroneus and the whole or part of the extensor of the toes; for forced adduction of the foot, the tibialis posticus; for abduc-

tion, the peronei laterales; for curvature of its internal edge, the adductor of the great toe; for extension or permanent flexion of the toes, the section of the tendons of the corresponding muscles; and finally, the simultaneous section of the tendons of those muscles, whose simultaneousness of retraction causes the different combinations of form which club-foot presents.

5th. The mechanical or consecutive treatment of club-foot ought to rest on the same data; that is, we should employ apparatus, the centres of motion of which ought to answer to the centres of motion of the displaced articulation and whose efforts should act in a direction exactly opposed to the action of the retracted muscles.

Dublin Journal of Medical Science, Nov. 1841, *p.* 198.

90.—NEW SYSTEM OF BANDAGING.

By M. Rigal, of Gaillac.

The object of this memoir, which was read at the Royal Academy of Medicine in November, 1840, is to point out the advantage obtained by the use of strips of Indian rubber in the place of common ligatures and bandages, made elastic by means of the same material, in place of the common roller. The author has used them for the last two years, and speaks very highly of their power of maintaining parts in apposition during the most varied movements of those parts. He particularly instances hare-lip, and the operations for the restitution of lost parts. The elastic bandages are also said to be very useful in maintaining oblique fractures of the lower extremities in perfect apposition, opposing a force in constant operation to the irregular action of the displacing muscles. In this way also they may assist in the replacement of parts after tenotomy.

British and Foreign Medical Review, July, 1841, *p.* 252.

91.—ON EXCISION OF THE ELBOW-JOINT.

By M. Roux.

Since 1812, M. Roux has performed excision of the elbow-joint eleven times, the whole of the articulation having been removed in every case. Of these eleven patients three have died; six reaped every benefit which could arise from the operation. The patient operated on in July, 1839, can flex and extend his arm imperfectly, while a few fistulæ still remain in the patient operated on last November. M. Roux formerly practised the operation of Moreau, making an external and internal vertical incision, and one transverse below the olecranon, but now he only makes an external and a transverse incision, the triangular flaps thus formed being quite sufficient when turned back to expose the articulation for removal, while the subsequent union is much more rapid than when an internal incision is also made.

British and Foreign Medical Review, July 1841, *p.* 253.

92.—TREATMENT OF RECTO-VAGINAL FISTULÆ.

By M. Petrequin.

M. Petrequin, the chief surgeon of the Hotel Dieu at Lyons, whose name is not unknown to our readers, has published at great length a case of that most distressing and often intractable accident, rupture of the recto-vaginal septum, succesfully treated by operation. He justly remarks, that it is to M.

Roux that surgery is indebted for the most valuable suggestions and precepts on this subject. It was he who first substituted the *quilled* for the *interrupted* and the twisted sutures in the approximation of the edges of the wound, and it is to this important modification that the success of his operations is mainly attributable. Two years ago he had performed and adopted this practice in eleven cases; in six of these the patients were cured by the first operation; in two it had to be repeated a second time; two patients died; and in the remaining case the wound gave way on the 14th day after the operation, during the effects of defecation. No other mode of operating presents so satisfactory a result—eight cures in eleven cases.

The following is an abridged report of M. Petrequin's case:

A woman, 28 years of age, had a protracted and severe labour with her first child; when the child was expelled, the perineum and recto-vaginal septum were found to be lacerated. Eight months after this date, she was admitted into the Hotel Dieu at Lyons, under the care of M. Petrequin. The entire extent of the perineum was lacerated, and the laceration extended into the rectum for 14 or 15 lines in depth; the constrictor muscle of the vagina and the two sphincters of the anus, with the exception of a few fibres of the upper one, were divided; the double ano-vulvar orifice was confounded in one large opening, and constituted a veritable cloaca, into which the excretions of the alimentary, the urinary, and the genital organs were received. The vagina and the os tincæ were the seat of minute ulcerations; and the general health had suffered considerably. The patient was therefore treated for some time with injections of a weak solution of the chloride of lime; and the os tincæ was occasionally touched with alum. After some time the general as well as the local health became much improved, and M. P. proceeded to the operation. The edges of the fissure being very finely pared, partly with the bistoury and partly with scissors, he inserted three curved needles, each armed with a double stout thread, through the two sides of the wound, taking good care that they penetrated to its deepest part. The ends of the ligatures were subsequently secured over two pieces of caoutchouc bougie placed along each side of the fissure.

As the lips of a wound always gape somewhat when a *quilled* suture is used, M. P. took the precaution of passing two stitches of the *interrupted* suture, so as to bring them in closer approximation.

The bowels having been kept well open for several days before the operation, opium, in the form of extract and syrup, was given afterwards to confine them, and the patient was put upon a very low regimen in order to prevent the necessity of defecation for several days. A catheter was also left in the bladder, so that the patient could relieve herself, when necessary, by merely withdrawing the plug. The vagina was freed from any purulent or other discharge, by means of mild emollient injections, morning and evening. On the third day, the patient had a liquid stool without any prejudice to the sutures. There was no evacuation of the bowels again until the eighth day, and then without much effort; the edges of the cicatrix at the anus were slightly disunited in consequence. On the following day, the stitches and the pieces of bougie were removed, the cicatrisation of the anterior three-fourths of the wound, at least, being by this time nearly complete: the patient began to take vermicelli soup, and the dose of the syrup of poppies was reduced to 16 *grammes*. On the eleventh day, there were two stools; and again there was a very slight laceration of the cicatrix near the anus; but the union in the perineum seemed to be complete.* On the eighteenth day, a superficial ulceration made its appearance in the perineum: by touching it

* M. Roux has remarked on the tediousness of the healing of the fissure near to the anus,—"In all the cases, the edges of the division next the anus were disunited or rather separated, although ultimately they closed. At this point the wound was slightly gaping, and looked like that which is caused by the operation for fistula ani. But this fissure has in every case eventually disappeared, and the anus has recovered its normal condition."

however with a portion of alum it disappeared in the course of two or three days.

As remarked by M. Roux, there remained in all his cases a small aperture of communication between the rectum and the vagina for a considerable time after the perinæum had completely united. M. Petrequin had for some days hoped that he had been more fortunate, and that the recto-vaginal septum had perfectly cicatrised, as no portion of a fluid injected into the vagina passed into the rectum. But this hope proved in a few days to be deceptive. With the exception of this minute aperture between the two passages, the whole extent of the fissure was completely cicatrised, when the patient left the hospital on the 15th of August 35 days after the operation. Unfortunately the poor creature caught cold when she returned home, and was seized with fever; she was brought back to the hospital, a fortnight after leaving it, in a dying state. On dissection, it was found that the circumference of the anus had been attacked with ulceration, which had been extending deeper and deeper in, so as to affect the sphincter muscle and give rise to two small fistulæ. The perineum however remained firm and perfectly united; and the recto-vaginal septum was closed, with the exception of one point, where an oval aperture which communicated with the two passages, existed: its edges were hard and retracting. Thus the large lacerated opening, which originally existed, had been reduced to a small fistulous aperture; and we have every reason to believe, from the experience of M. Roux, that this would have gradually closed.

In closing the report of this case, it is impossible not to admit the great superiority of the *quilled* over every other kind of suture in the treatment of recto-vaginal fistulæ. The introduction of this great surgical improvement we owe entirely to the sagacity of M. Roux.

Medico-Chirurgical Review, July, 1841, *p.* 210.

93.—EXTRACTION OF A GOLD PIN PASSED FAR INTO THE URETHRA.

By Dr. Bonner.

[The following case may probably be interesting to the reader, and may suggest a similar practice in such unusual cases.]

I was called some time since, to visit a young man, who for the purpose of excitement, had introduced a gold pin into the urethra, into which it suddenly slipped from his grasp and disappeared. It was more than two inches long, and the head which had been pushed in first was as large as a hemp-seed. In his attempt to push it out again he had made it go further towards the bladder, and when I came to him the head of the pin was in at the membranous part of the urethra. I could easily put it in the perineal region, and applying my thumb on the head to prevent its going on towards the bladder. I tried to push it out of the canal, pressing in the direction opposite to that by which it had entered, and at the same time pulling the penis, to prevent the point from catching in the folds of the mucous membrane. But, in spite of all my precautions, my attempts appeared to make it go towards the bladder, especially whenever I tried to disengage the point from the mucous membrane into which it kept running. I had scarcely any instruments with me, nor indeed would any ordinary ones have been of any use; therefore my endeavours to draw it out were unavailing.

I now determined to run the point of the pin through the wall of the urethra, and then to turn the pin end for end, and push the head towards the external orifice. This I accomplished in the following manner:—With the left thumb I firmly fixed the head of the pin, and then bending the penis double

at the part where the point of the pin lay, I made the latter pass through the wall of the urethra, and drew out all but the head, which now lay where the point had just previously been. This done, I carried the shaft of the pin backwards, and so made the head move forwards, and then pushing on the shaft from behind forwards, I pushed the pin head first towards the external meatus, through which I now easily drew it out with a pair of dressing forceps. In a word, to perforate the urethra from within outwards, to turn the pin, to push it on, and to extract it—such were the manœuvres of this operation.

The consequences of this perforation were of the simplest kind: the patient scarcely ever felt a pricking in making water. Three days after he was perfectly well. Subsequently, however, in consequence, of a severe and maltreated gonorrhœa, an abscess formed around the urethra, and was followed by a fistulous opening; but it was remarkable that this opening was situated at a considerable distance from the part at which the urethra had been punctured.

Medical Gazette, Sept. 3, 1841, *p.* 927.

94.—REDUCTON OF A STRANGULATED HERNIA, APPARENTLY EFFECTED BY ACUPUNCTURE.

By Dr. Daser.

A man, 50 years of age, was seized with strangulated hernia, with vomiting of stercoral matter, and all the other usual symptoms. The taxis having failed, Dr. Daser, before having recourse to the operation for strangulated hernia, with the view of trying the effect of acupuncture, for the purpose of evacuating the gaseous contents of the strangulated portion of intestine, made two punctures in it with a long fine needle. No gaseous matters apparently escaped, but the patient complained of acute pain, and loud gurgling sounds were heard in the abdomen, immediately after which the hernia was spontaneously reduced. Dr. Daser attributed this fortunate occurrence to the prick of the needle having excited the contractility of the intestine, causing it to contract on its contents, expel the gaseous matter in the abdominal portions of the gut, and thus facilitate its reduction.

Edinburgh Medical and Surgical Journal, Oct., 1841, *p.* 549.

95.—APPARATUS FOR OBLIQUE FRACTURES OF THE SHAFT OF THE FEMUR.

By M. Fociachon.

The patient being placed in a horizontal posture, a bandage is applied from the toes to the groin. This done, two double bands, half of each of which remains loose, are placed by the sides of the limb, and extend from within a a short distance of the seat of fracture for about a yard downwards. These are intended to furnish the principal fixed point for the continued extension, which M. Petrequin, the inventor of this method, calls *permanent parallel extension.*

To fix them firmly in this position, they are starched, or covered with a layer of dextrine, and then rolled round with another bandage; and then another quantity of starch or dextrine is applied over the whole together. An assistant constantly keeping the limb in a horizontal position, and at the same time maintaining some extension of it, the other half of each of the bands which was hitherto left loose, is now applied along either side of the limb and arranged like the first, so as to go to the same distance beyond the foot as it does.

Two fresh rollings of the bandage, and another layer of starch, serve to fix this band in just the same manner as the first. Six or eight very narrow and flexible splints, almost as long as the femur, are next applied over the fracture, and are kept in place by a bandage: and if necessary, a second layer of splints and another bandage are added; and then the whole are well starched, to fix them all in one firm mass. Long rigid splints, with two pads, fix the limb laterally, as in the method commonly employed, till the solidification of the apparatus is completed; and two flexible splints are placed behind, and two in front of the thigh, in order that the compression may be made methodically and equally over every part of the limb. The leg, since it does not naturally lie in the same plane as the thigh, must be slightly raised by a little cushion, so as to bring it to the same level. The apparatus being thus disposed, and having dried, the constant extension of the limb is made by means of a weight, greater or less according to the circumstances of the case, which is fixed at the lower extremity of the two bands already described as passing from below the fracture to beyond the foot, and which are carried over a rod at the bed's foot, and made to slide on it as on a pulley.

The advantages of this mode of extension are, that it acts over a considerable extent of the limb without fatiguing the patient; that it acts only on the lower portion of the fractured bone, and thus more effectually and more regularly; that it draws uniformly in the direction of the axis of the limb, and parallel to the fractured bone; that it prevents shortening, and that the patient cannot escape from its influence by sliding down lower in the bed.

Medical Gazette, Sept. 17, 1841, *p.* 991.

96.—HÆMORRHAGE AFTER LITHOTOMY STOPPED BY CREOSOTE.

By Dr. Daser.

In a case of lithotomy it was found impossible to arrest the hæmorrhage by any of the usual means, and no particular vessel could be discovered from which the blood might flow. The patient was at last reduced to the lowest ebb from the continued loss, and had already lost consciousness, when a sponge dipped in pure creosote was introduced into the wound, and pressed against the bleeding parts for an instant or two. The hæmorrage was immediately arrested. No particular pain was experienced, no unpleasant symptoms followed: thin eschars were thrown off, and the patient recovered.

Edinburgh Medical and Surgical Journal, Oct., 1841, *p.* 549.

97.—ACTION OF HYDROCYANIC ACID, ETC., ON THE EYE.

By A. Turnbull, M. D.

It is a well-known fact, that the eyes of those who have been destroyed by hydrocyanic acid, for a length of time after death, shew none of the usual symptoms of dimness. On the contrary, the eye is clear, and the pupil much dilated. This satisfied me that the acid exerted a specific action upon the eye, which might be made available, as a medical agent, for relieving many of the diseases to which that organ is so subject.

My first experiment was undertaken in 1837, with the diluted acid, by dipping a sponge into it, and rubbing it upon the forehead for the space of a few minutes, which gave the skin a very red appearance; but the patient experienced not the least sense of heat, and the pupil was slightly dilated. I continued to use this with very beneficial effects in incipient cataract, opacities of the cornea, inflammation, amaurosis, irritis, &c. Of late I have substituted the vapour of the concentrated acid to the eye with much more decided

effect, and without the slightest danger. The plan I generally adopt, is to put into an ounce-phial a drachm of the acid, and hold it in close contact with the eye, the eyelid being open, for the space of about half a minute, or until such time as the patient feels a little warmth, or the person holding the phial sees the pupil greatly dilated, and the vessels of the eye injected with blood, which is the invariable effect of the application of the acid. The patient is not sensible of pain from this peculiar state being induced, which appears to me to result from the powerfully sedative influence of the acid, thereby showing that two opposite powers—to wit, stimulating and sedative—are exerted at the same time; and thereby the uneasiness arising generally from a stimulant alone is prevented. Its great power in removing these diseases chiefly arises from the two powers being so blended, and thus enabling the eye to bear a sufficient stimulating action without injury. The person who holds the acid to the eye should be careful not to allow the patient to smell it.

The essential oil of bitter almonds, I use for the same diseases. I put two drachms of water, to two drachms of the oil, in an ounce phial, and hold it in the same way to the eye as the acid; but its effects are not precisely alike. The feeling induced by the oil is soothing, and generally relieves all sense of pain, even of tic douloureux, without sensibly dilating the pupil, or causing much redness of the eye. I find it very useful in taking away the heat ocasioned by the hydrocyanic acid.

Medical Gazette, Oct. 1, 1841, *p.* 49.

MIDWIFERY.

98.—NEW KIND OF PESSARY.

By Chas. Clay, Esq., Lecturer on Medical Jurisprudence, Manchester.

[The great advantage of a pessary of the kind described and recommended by Mr. Clay, would no doubt be as he says, to support the womb; and at the same time would not so distend the vagina as to render the evil of prolapsion even greater than ever, the moment the instrument is withdrawn. There can be no doubt that all the pessaries now in use, give relief at the expense of increasing the evil sought to be remedied, by producing even greater distention and consequent relaxation of the vaginal tissues: and this must always be the case so long as the large instruments (more like foot-balls, as Mr C. says,) continue to be required for the evils of prolapsion of the womb. These common pessaries may, indeed, support the womb, but cannot allow nature the opportunity of remedying the mischief, which Mr. Clay's pessary really promises to do. It is described as follows:]

It consists of a small shield of wood, ivory, &c. of a peculiar shape, secured to the vaginal entrance by bandages attached to a belt applied around the body. To the inner surface of the shield is fitted a strong coil of steel wire, plated over with gold or silver, the dimensions of the coil being such, that when worn the vaginal canal will not be in the least extended, but with every facility assume its original dimensions. At the end of the coil is a caoutchouc ring, a little larger in dimension than the coil on which the os uteri rests when applied.

It must be evident, on reflection, that this plan posseses infinite advantages over the old pessaries, particularly in the following points of consideration:—First, The elasticity of the coil allows of the free motion of the body in every possible direction with perfect ease. Second, The vaginal canal not being obstructed, the catamenia can flow through the caoutchouc ring and along the coil without any hindrance. Third, The dimensions of the coil and ring being so moderate, no undue pressure can prevent discharges either from the bladder or rectum. Fourth, The laxity of the vaginal canal may be removed, and its original dimensions restored *(the measurements of the coil being not larger than the vaginal canal in a healthy condition).* Fifth, Local applications for improving the tone of the parts are facilitated by the opening in front of the shield through which injections can be thrown, and retained at pleasure, by introducing a small piece of sponge, or plug, into the opening; and the same plan might be a protective to females in heated or crowded rooms, for sudden appearances of the catamenia.

It must be borne in mind that the caoutchouc ring is some little larger than the coil, and the length of the coil must vary a little, according to circumstances: *when it is weighed with the uterine mass, it should be about the length of the vaginal canal in a healthy state.* I think a coil, varying from three and a half to four and a half inches will be found sufficient. To prevent any folds of the vaginal coats from getting entangled in the coil, a thin slip of caoutchouc is proposed to stretch along the under and outer surface of the coil.

Such is the instrument I wish to introduce. I have full confidence when manufactured by an able hand, that much good would result from its application. When the idea is made public, many hints, perhaps, may be given for its further improvement.

London Lancet, Sept. 11, 1841, *p.* 862

99.—POLYPUS OF THE UTERUS EXPELLED BY THE ACTION OF SECALE CORNUTUM.

By M. P. Moyle, Esq., Helston, Cornwall.

[Mr. Moyle was requested to attend without delay, a Mrs. W., who had suddenly lost a large quantity of blood from the womb, and had just recovered from a long state of syncope. The blood was lost in about two or three minutes. She had frequently had small hæmorrhages previously, and was becoming weaker in consequence. Her legs and thighs were swollen almost to bursting, her countenance pallid, respiration difficult, and general health decaying. After she had recovered greatly from her fainting, and after Mr. Moyle had satisfied himself that the flooding was owing to polypus of the uterus, he proceeded as follows:]

A fresh appearance of hemorrhage induced me to give her at once two drachms of the tincture of secale cornutum, the valuable effects of which I had often before experienced. I also applied a bandage firmly round the abdomen, and applied cloths, wetted with cold vinegar and water, to the pudendum. The discharge proved to be little, and no faintness followed. In twenty minutes after the first dose, the tincture was repeated, and in a few minutes she complained of being griped. Suspecting this griping to be a slight contraction of the uterus, I ventured an examination by the vagina. The vagina was full of coagula; the os uteri was flabby and dilated to the size of half-a-crown piece, immediately within which I found a substance of somewhat firmer texture than the coagula, and around which my finger passed freely. During the examination there was a pain of sufficient force of the os uteri to embrace the finger firmly, and I now felt confident of being able to subdue the hemorrhage for the present, and was not without hopes that I might, by a perseverance of the remedy, enable the uterus to throw off the extraneous substance within it. A third dose was now administered, which kept up the pains at short intervals, but they were weak and feeble. Finding this the case, the supposition was, that she was too much reduced from the disease and the recent loss of blood for the medicine to have its full effect. A cup of gruel, with a small quantity of brandy in it, was given her, and in half an hour after, another similar potion, which had the effect of reviving her to a great degree. I now took my leave about eight o'clock P. M., giving directions for a repetition of the food, together with some beef-tea, at intervals of an hour or every second hour, leaving with her four doses of the secale, to be taken at intervals of half an hour; in case there should be the slightest appearance of flooding. I was to be sent for immediately.

Early on the following morning, I found her labouring under sharp contractile pains of the uterus, from having taken, two hours previously, two doses of the secale. Examination discovered the mass of polypus filling the vagina. The patient was very cheerful, and expressing herself convinced that the mass was coming away. The pains were by this time not so severe as they had been, and consequently I now gave her three drachms of the tincture in a little brandy. This had the effect, in about twenty minutes, of producing a severe pain, which brought the mass to the os externum. It was now grasped with the hand, and, on the recurrence of the pain, the whole

was discharged. Slight hemorrhage only followed the expulsion of the polypus, which equalled in size two large placentæ. From this moment she recovered with great rapidity. There was a slight appearance of the menses at the end of six weeks, succeeded by a more abundant appearance at the termination of another similar period. She daily improved in health, the œdema gradually subsided, and although she was for many months unable to put the whole weight of her body on her right leg, yet from bandaging, the use of tonics, &c. she is now, in all respects, a perfectly healthy robust woman.

Lond. and Edin. Monthly Journal of Med. Science, June, 1841, *p.* 417.

[The successful result of this case induced Mr. Moyle to try the use of the ergot in another patient who had previously been under his care. He visited her on the 7th Sept. 1839, and gave her four doses of the tincture of secale cornutum, 3ij. in each dose. Two or three slight pains were now experienced, nausea and vomiting followed. Shortly afterwards she had a severe labour pain. She then took 3iij. more of the tincture, and the pains increasing, the polypus mass was felt at the os uteri. By the further use of the medicine the substance was completely expelled. It was about the size of an average placenta.

The following case related by Dr. Somerville will corroborate the statements of Mr. Moyle.]

Mrs. G., aged 26, had been subject to femoral hernia of both sides for several years, and for some time previous to her marriage, up to the period of her first confinement, had suffered much from leucorrhœa. At the time of her delivery, she had an attack of uterine hemorrhage, which subsequently returned at intervals, and continued with considerable violence, till she called on me for advice, about fifteen months after her delivery. I did not, at that time, propose an examination, but prescribed a few doses of ergot in powder. The next day she complained of being severely pained, since she had taken the powder; and the discharge still continuing, I examined the state of the uterus, and found a mass slightly protruding through the os uteri, which I believed to be a polypus. The ergot was given in increased quantity and at shorter intervals, which produced severe bearing-down pains, and in a short time, a polypus about the size of a large orange, having a thick pedicle, and attached to the anterior surface of the cavity of the uterus, was propelled into the vagina. After an interval of a few days to permit the irritability of the uterus to subside, a ligature of silver wire was applied by means of a double canula, but it broke on being tightened. Another and stronger wire was applied, and after it had been firmly tightened, great pain and tenderness of the tumour, and also of the abdomen supervened. The abdominal tenderness was speedily relieved by antiphlogistic means, but the pain and uneasiness of the tumour still continued, in such a degree, as to require great gentleness and caution in tightening the ligature. The wire, however, gradually ulcerated through the portion to which it was applied. On its separation, the lower half of the pedicle of the tumour was found divided, while the upper half, which probably had been first separated, had become reunited, and a distinct sulcus was felt on its upper surface, where the reunion had taken place. The circumstance of the time required for tightening the ligature being considerably longer than usual, on account of the tendency to abdominal inflammation and the tenderness of the mass itself, will probably account for this unusual occurrence. The polypus became gradually smaller, and the pain in it having abated, another ligature was applied in the same site, which, in a very few days, effected a complete separation of the tumour, and it was removed by the fingers. On inspecting the polypus, the sulcus, where the second ligature had been applied, and reunion had taken place, was perceived extending all round the upper half of the

pedicle. The uterus was examined by the speculum shortly after;—the os uteri was still open, and its lips swollen and tender, but these symptoms were speedily removed, and the woman is now in the enjoyment of excellent health.

Dr. M'Farlane, in his Essay on Polypus of the Uterus, in the Glasgow Medical Journal for 1828, mentions the following case, where the effect of the secale cornutum was equally decided, and the separation of the tumour was effected without the use of any other means, as in those of Mr. Moyle.

A lady who had been subjected to profuse hemorrhage for a period of ten months, had for several years been affected with habitual leucorrhœa. After various remedies had been employed without effect, an examination was made, and the uterus felt enlarged. Considering that the continued hemorrhage might be owing to the presence of a polypus, or some other tumour, within the uterine cavity, Dr. M'Farlane resolved to try the effect of ergot of rye, as, from the character of the lady, and the history of the case, he had no reason to suspect pregnancy. After the administration of some doses of this medicine in infusion, severe pains were produced, which continued for several hours, when on examination, a polypus was found in the vagina having a slight pedicle, which in a few days ulcerated, and was easily extracted.

Ibid, August, 1841, *p.* 570.

100.—CASE OF CÆSARIAN SECTION.

By James Whitehead, Esq., Manchester.

[Although the following case of Cæsarian section was not successful in its results, yet we cannot help placing it before the reader, not only on account of the clearness with which the steps of this important operation are described, but also for the judicious mode of treatment adopted, if we except, indeed, the too continued use of opium throughout the case, in which we should in some measure disagree with the writer.

The subject of the operation, was Mary Ann Jones, 39 years of age. Her first four labours were natural and easy, there being sufficient room in the pelvis to admit of the easy descent of the child; but during the whole of her fourth pregnancy she became affected with rheumatic pains in her limbs, back, and pelvis; the labour was nevertheless easy. During her next or fifth pregnancy, she suffered severely from these pains and her stature became considerably diminished.

When labour came on at the full period, Mr. Clough found the antero posterior diameter was under two inches, and in a consultation of medical men, recommended the Cæsarian operation; but in this opinion most of the others did not coincide. Embryotomy was had recourse to and the woman was delivered with considerable difficulty, but recovered safely.

After this, she was pregnant several times, and premature labour was easily induced at the end of the fourth month each time. During her last, and tenth pregnancy the attempts to bring on abortion were unsuccessful, although repeatedly and fully tried. She was therefore allowed to go to the full period of pregnancy. . . .

Mr. Whitehead then relates the case as follows.]

I was summoned to attend her on the evening of the 14th of August, 1840, gestation being then at its full period. The pains were slight and lingering, and by the aid of an anodyne draught she passed the night comfortably. On the following morning, the pains were still infrequent and trifling, but of a character indicating that labour was near. Four of my professional friends were consequently requested to meet me in consultation, at 12 o'clock. Two

of them only could attend at that hour, and as the pains were scarcely more urgent than when she was visited in the morning, we agreed to meet at 7 o' clock in the evening. The patient had been in active labour two or three hours when we arrived. The pains were strong and frequent, and evidently occasioned great suffering. There had been no discharge except of mucus, so that the membranes, in all probability remained entire. The frequent examinations which I had previously made of the pelvis, had enabled me to ascertain with tolerable certainty to what extent the deformity had proceeded, and I now stated my opinion to be, that the greatest available space at the upper aperture of the pelvis, in its antero-posterior diameter, was not more than one inch and a quarter: in this opinion, several who had also seen the patient with me before, fully coincided. It was with great difficulty, however, that an efficient examination could be made, as the contraction in the cavity of the pelvis, and at its outlet, precluded the introduction of the hand to a sufficient extent. The tuberosities of the ischia were found to approach anteriorly to within a very short distance of each other, and the outlet was much encroached upon by the apex of the sacrum, which had advanced considerably towards the arch of the pubis. After each had again made a careful examination, we retired into another room for consultation. The conclusion was, that the dimensions of the pelvis were too small, not only for instrumental interference by the natural passages, but also, for the fragments of the fœtal cranium to pass, had perforation and separation of the bones been practicable. The Cæsarian section was therefore decided upon, and recommended to be performed without delay. I now returned to the room where the patient was lying, and informed her that it would be impossible to effect delivery in the usual way, and that the only means that could afford her or her child a chance of being saved, was the Cæsarian section, the nature of which I briefly explained to her. She consented without a moment's hesitation to submit to any operation that should be deemed necessary, and hoped it might be done as soon as possible.

Catheterism, and other necessary preliminaries, having been attended to the patient was placed upon her back, her shoulders a little raised on pillows, and the knees flexed over the edge of the bed, when I placed myself, for the sake of convenience, in the kneeling posture. Two assistants were stationed near her shoulders to keep her still, and one on each side of her, near to me, each holding a candle; another was prepared to supply whatever instruments, sponges, &c., might be needed. The external incision was made in the line of the uterine axis, commencing about four inches above, and extending nearly the same distance below the umbilicus, and running a little obliquely from within outwards: its upper extremity being half an inch, and its lower, an inch and a half to the left side of the linea alba. A short incision was first made through the whole thickness of the abdominal parietes, which were extremely attenuated, and continued by means of a director and probe-pointed bistoury. The cut into the uterus corresponded in direction with the external one, and was about seven inches long. A small incision was first made with the scalpel, and continued with the probe-pointed bistoury, the fingers being used to direct it instead of the grooved probe. The placenta being attached at this part of the womb was immediately torn through with the fingers, and the child and it extracted without the slightest difficulty. The uterus, the parietes of which, in its distended state, were not thicker than shoe leather, immediately contracted to the size of a child's head, and its walls became about three quarters of an inch in thickness. Some of the small intestines now protruded at the upper part of the wound, but were immediately replaced, and held in by Mr. Fawdington. The parts were then sponged, the external wound brought together, and secured by six interrupted sutures, adhesive plaster in long straps, and a broad circular bandage. The lower fifth of the wound was left uncovered by adhesive plasters, in order

to allow any discharge to pass freely from the interior: a piece of spread lint, and a fold of the bandage being all that was thought necessary at this part. The loss of blood amounted to about eight or ten ounces; it issued principally from the placenta while being torn through. There was very little discharge, indeed, scarcely an oozing of blood from the divided edges, either of the abdominal parietes or the uterus.

The woman bore the operation almost without a murmur, and said she had not suffered more than she should have done from two or three ordinary labour pains. The child, who was alive and healthy was extracted in less than two minutes after the first incision was made, and the whole operation completed, and the patient in bed, in twelve or fifteen minutes after the commencement. The pulse was not materially affected, and the patient was lively and talkative directly after being put to bed. A quarter of an hour after the operation, which was 9 o'clock, P. M., three grains of solid opium were administered, and directed to be repeated every four, five, or six hours. She passed a comfortable night: slight uterine pains came on three or four hours after the operation, and she had some lochial discharge at the same time *per vias naturales*. There has been a little oozing from the lower part of the wound.

[For some time the case seemed to be going on favourably, but eventually ended fatally thirty-two days after the operation.]

On inspecting the body 13 hours after death, the upper part of the wound, three inches in length, had healed by granulation. A small knuckle, the size of a section of a hazel nut, of the intestinum ileum, had insinuated itself between the edges at this part, but did not protrude beyond: its surface was covered with granulations. The rest of the wound was flabby; and the granulations, which appeared so luxuriant and healthy a week before, had become partially absorbed. A small cul de sac existed between the lower extremity of the cicatrix and the fundus uteri; this was in progress of being filled up by granulation. The incision into the uterus was at its fundus, and at this time one inch in length; both sides were studded with healthy granulations, a circumstance somewhat remarkable, considering the unhealthy appearance of the external wound. I believe that the wound in the womb had been healed, as previously mentioned in the notes of the 23d day, but subsequently separated at the time when the reparative process ceased to go on externally, and that the adhesions were destroyed by absorption. The womb, which is in my possession, was scarcely larger than it is usually seen to be in its healthy unimpregnated state. The external wound, as well as that in the uterus, was excluded from the general peritoneal cavity by a most complete barricado, formed by adhesion of the parietal and visceral peritoneal surfaces, imperforate at every point, and situated at a distance of from half an inch to an inch from the edges of the external wound. These adhesions were perfect on the fourth day after the operation, and I think earlier. On carefully dissecting away the peritoneum from the fore part of the pelvis on its inner aspect, a gush of well-formed pus flowed out from the side of the right psoas muscle. The cavity containing this fluid was within the sheath of the psoas magnus, and was traced forwards to the body of the pubis, and thence downwards to the cavity of the hip-joint, which was filled with matter of the same kind. The ligamenta teres and transversum were almost entirely absorbed; and the head of the thigh-bone, and corresponding surface of the acetabulum, were denuded of cartilage, and quite carious. From the hip-joint the abscess had taken a course upwards, passing beneath the cotyloid ligament and periosteum, over the body of the pubis to its posterior aspect, the whole of which was also carious. The stomach, bowels, liver, and other abdominal viscera appeared healthy.

Medical Gazette, Sept. 10, 1841, p. 940-946.

A CURIOUS CASE OF DROPSY OF THE ABDOMEN.

By JONATHAN TOOGOOD, Esq., Senior Surgeon of the Bridgewater Infirmary.

[The following interesting case of this affection ought to put us on our guard in cases of apparent dropsy, as the expected relief in these latter cases by tapping would only greatly disappoint the surgeon, and endanger the life of the patient.]

On the 27th of May, 1830, I was requested to meet Mr. Davidson in consultation, at Mary Cawe's, of Pawlett. She was between the sixth and seventh month of her pregnancy, and suffering from general dropsy to such a degree, that Mr. Davidson considered the only chance of affording relief was by tapping, which operation he was prepared to perform on my arrival. I satisfied myself of pregnancy, and although she was greatly swollen, and suffering much from dyspnœa, I could not sanction his proposal, and recommended diuretics and opiates. On the 30th she was reported to be somewhat relieved, but the lower extremities had become more œdematous. On the 2nd of June, she was reported to be suffering so much from œdema, vomiting, diarrhœa, and most distressing dyspnœa, that her medical attendant represented it not only improper, but dangerous to delay the operation any longer. I found her in a deplorable situation, the swelling had increased very much, she could keep nothing on her stomach, nor could she lie down for an instant; the pulse was weak and fluttering, the abdomen was distended to the utmost; the fluctuation could not only be distinctly felt, but absolutely seen, the parietes of the abdomen had become so thin. It was evident that immediate steps must be taken for her relief; and so satisfied was her adviser of the rapid increase of all her symptoms, and immediate danger, that he again proposed, and strongly urged that a trocar should immediately be plunged into the abdomen. I could not recollect to have seen any account of such cases, which would have enabled me to have determined my practice with greater confidence. (Dr. Lee's paper had not been published at that time.) I proposed the induction of premature labour, and at four o'clock in the afternoon ruptured the membranes with a male catheter. Two hours after I felt the funis presenting, and left her in Mr. Davidson's care, from whom I learned on the following morning, (Tuesday,) that she had been delivered of a small fœtus at 12 P. M., and that the abdomen had subsided a good deal. On the following day, (Friday,) I received a note from him, which I copy in his own words:—"I beg to inform you that the poor woman Cawes has been delivered of a second fœtus this morning, when I was called to her, and found her in hard labour, with the membranes very much distended, which I instantly punctured, when upwards of ten or twelve quarts of water were evacuated, succeeded, of course, by a complete subsidence of the abdomen. The issue shows the difficulty attending the diagnosis of such morbid appearances."

Provincial Medical and Surgical Journal, May 22nd, 1841, p. 149.

[When we read the above case, we must receive with due caution the advice of even Dr. Burns, who says, speaking of ascites during pregnancy, "If, in spite of treatment, the swelling increase, paracentesis must be performed, and I am surprised that there ever should have been a moment's doubt as to its propriety, for there certainly can be none as to its safety." In Mr. Toogood's case, Dr. Burns' practice would have been highly dangerous, and probably fatal: and yet it was most difficult to know whether the water was in the womb, or in the peritoneal cavity.]

102.—ON THE IMMERSION OF CHILDREN APPARENTLY STILL-BORN, IN COLD WATER.

By Dr. Scholer, Assistant Physician of the Berlin Lying-in-Institution.

This paper contains two well-detailed cases, and alludes to several others, in which this measure was successfully adopted, after all the ordinary means had failed of reanimating the infant. The evidence adduced is certainly sufficient to warrant the adoption of the plan as a last resource after less violent measures have been tried in vain.

Medicinische Zeitung, April 28, 1841; *and British and Foreign Medical Review, Oct.* 1841, *p.* 560.

[This fact may seem contrary to the general opinion, but we are warranted in saying that the cooler a child is kept immediately after birth when apparently still-born, the longer it will bear the state of asphyxia. So long as the heart beats the child will do without breathing longer when cold or cool, about 75°, than when kept warm or hot. Hence we perceive that the new-born child which is generally two or three degrees colder than the mother, and colder than it very soon becomes, is better able on that account to live for a time without respiration.]

103.—ON CONGENITAL ASPHYXIA.

By Dr. Marshall Hall, F.R.S.

[In his late work on the diseases and derangements of the nervous system, Dr. Marshall Hall makes the following remarks:]

The infant is said to be *still-born*. We wait for the establishment of respiration, and this event does not take place. There is a general alarm. We now see the value and importance, in a *practical* point of view, of the principles of the physiology and pathology of the nervous system which I have been detailing. I have stated that respiration is an *excited* function; that it belongs to the excito-motory sub-division.

In one word, then, all our efforts must be instantly made to *excite* respiration. Now what are the channels through which this act may be excited? What are the excitors of respiration? The *trifacial*, the *pneumogastric* and the *spinal* nerves.

The trifacial nerves must be excited by *forcibly* blowing or dashing cold water on the face, by stimulating the nostrils by ammonia, snuff, pepper, or the point of a needle.

The spinal nerves must be excited by *forcibly* dashing cold water on the thorax, the thighs; by tickling or stimulating the sides, the soles of the feet, the verge of the anus.

What the pneumogastric is, as the excitory nerve of respiration, under ordinary circumstances, the trifacial and the spinal nerves are, in cases of asphyxia, or suspended respiration. The means recommended for exciting respiration through these excitors, frequently induce a sudden act of inspiration, which proves the first of a series, so essential to animal life.

The important point to be mentioned, is, that it is not the mere application of cold, but the *sudden* application of *cold* to a *warm* surface, which is the effectual means of exciting respiration. It is the *sudden alternation*. To apply cold to a cold surface would only be to sink the general powers of life. The infant should be kept warm; the warm bath may be required; and then cold water must be applied, in moderate quantity, but with force.

But if these attempts to *excite* respiration through the trifacial and spinal

nerves fail, we must *imitate* this function, by artificially distending the lungs, in the hope that eventually, it may be excited through its wonted channel, the pneumogastric.

To effect this the practitioner's lips are to be applied to those of the infant, interposing a fold of linen, and he is to propel the air from his chest, slowly and gradually, into that of the infant, closing its nostrils, and gently pressing the trachea on the œsophagus. The chest is then to be pressed, to induce a full expiration, and allowed to expand, so as, if possible, to effect a degree of inspiration.

But it is important, in doing this, that the practitioner himself should previously make *several deep* and rapid respirations, and finally, a full inspiration. In this manner, the air expelled from his lungs into those of the little patient, will contain more oxygen and less carbonic acid, and consequently be more capable of exciting the dying embers of life.

I base this suggesotin on an interesting communication by Dr. Faraday, in the London and Edinburgh Philosophical Magazine, vol. iii. p. 241, for October 1833, to which I have already referred. It is ascertained that respiration may be suspended longer, as in diving, or in experiments, after such repeated forced respirations, than in ordinary circumstances, from the greater purity of the air in the lungs.

If all these plans should be tried in vain, I would strongly advise galvanic or electric shocks, to be passed from the side of the neck to the pit of the stomach, or in the course of any of the motor respiratory nerves, and their appropriate muscles. No time should be lost in sending for a proper apparatus; but, should the lapse of an hour, or even more, take place before it *can* be obtained, still it should be sent for and tried.

When respiration is established, the *face* must *still* be freely exposed to the air, whilst the temperature of the limbs and body is carefully sustained.

In the *midst* of these efforts, it should, in the next place, be the office of two other individuals to maintain or restore the *temperature* of the little infant, by gently but constantly pressing and rubbing its limbs between their warm hands, passing them upwards, in the direction of the venous circulation.

An enema of gruel, at 98° or 100°, or *higher*, with a little brandy, should be administered.

As soon as possible, a little warm liquid, as barley-water, at blood-heat, should be given by means of the proper bottle, furnished with leather or soft parchment. A tea-spoon must not be used for fear of choking. If the infant draws the liquid through its own lips, by its own efforts, there is no danger.

Lastly, these various means should be continued or repeated in the most persevering manner."

Medico-Chirurgical Review, Oct., 1841, *p.* 319.

[It will be noticed in this paper that Dr. Hall disagrees in some measure with Dr. Edwards, of Paris, and Dr. Scholer, of Berlin, with respect to keeping the surface warm or cold in a state of asphyxia. No doubt Dr. Hall's opinion is of the greatest weight in such a matter, but still we think upon the whole that facts go decidedly to prove, that a moderate temperature, that is about 60 degrees, is much to be preferred to one of 90 or 100 degrees.]

104.—USE OF THE TOURNIQUET TO RESTRAIN HÆMORRHAGE AFTER DELIVERY.

By Wm. Pretty, Esq. M.R.C.S.

[The late Mr. Walford, teacher of midwifery in Aldersgate Street School, was the gentleman who first suggested to Mr. Pretty pressure by means

of the tourniquet to check those fearful hæmorrhages, which so often follow the birth of the child, and separation of the placenta.]

Mr. Walford recommended the tourniquet to be made at least double the size of the one in ordinary use, with a proportionably wide band, and this must have obvious advantages over a smaller one. The one I have hitherto used has been taken from an amputating case. I removed the pad, and by increasing the length of the fillet sufficiently to encircle the hips, with this and the compress I have obtained a power far exceeding any hitherto obtained by other means. I am disposed to think the most eligible compress might be made of a piece of cork, about an inch in thickness, covered with soft leather, and shaped somewhat to the inferior and anterior aspect of the abdomen; this would be sufficiently firm to yield uniform pressure over the uterus without giving any pain, which I have found the corners of a book apt to do; or something softer might be applied first upon the body if thought desirable. Twice I have tried the tourniquet on the same patient in flooding labours, with satisfactory results. The first time I attended this patient, which was of her fourth child, she flooded dreadfully, and so perilous was her condition that I did not think it possible she could recover. The debility, as usual in such a case, was long and continued, and so debilitating to the poor mother, that to nurse the child was out of the question. When called upon to assist at her next confinement, I was prepared with a tourniquet, and tr. secale cornut. She began to lose blood very freely after the birth of the child, the placenta being detached and lying in the vagina. I gave immediately a dose of the secale cornutum, and applied the tourniquet, shortly after which I gently removed the placenta, and all further hæmorrhage was quickly restrained by increasing the pressure; fainting did not ensue, and I was relieved of all that bodily exertion which had been so fatiguing to me upon the former occasion.

At her subsequent labour I had to encounter the same danger of flooding, which commenced as before, and which, by the use of the tourniquet and compress *alone*, was most satisfactorily suppressed. This labour was of twelve hours' duration, and the latter pains were very severe; its progress was regular, and the head of the child gradually advanced, and after its extrusion, several pains were required to bring the shoulders, body, and hips, into the world. The placenta was found loose in the vagina. All this was very favourable for the non-supervention of flooding, but it did appear; and at this time I removed the placenta, which gave a momentary facility to the free discharge of blood, before I turned the screw of the tourniquet, and quickly stopped all further flow. The patient has made a much better nurse, and has been altogether stronger and better after this confinement than any former one, except her first, which occurred in the country about twelve years since. Sleep soon followed the delivery, and I left my patient with a soft compress and the touniquet upon the body for two hours, when I returned and saw her placed comfortably in bed. She had not one bad symptom, nor yet an after pain, neither did I give one drop of laudanum.

[In another part of this interesting paper of Mr. Pretty's, he mentions a singular case of expulsion of the womb and its contents entire. He says:]

I feel some desire to state, that early in my professional practice, I met with rather an extraordinary occurrence, viz. the expulsion during the last pains of labour of the whole of the uterus entire—the child, placenta, and membranes, unbroken upon the bed. At first I was a little astonished, but the momentary surprise yielded to my doing something towards saving the life of the child; I therefore immediately ruptured the membranes, discharged the liquor amnii, and separated the infant, which soon began to cry, and

both it and the mother did well. I had been in the house only a very short time before I was summoned to give this assistance. The labour was quick, and took place at the full period of utero-gestation. The mother had borne one child only before, which was then twelve years old.

[Mr. Pretty finishes his paper by giving an account of rather a new midwifery instrument, the whalebone vectis, as follows:]

In the month of October last year, I had the pleasure to see the very good effects of a new midwifery instrument, (the whalebone vectis,) in the hands of Dr. Conquest, in a case of protracted labour under the care of a lamented friend. A woman, æat. 35, strong and healthy, in labour of her first child, went on favourably for some hours; the head presented, and the os uteri became fully dilated; but notwithstanding the pains were frequent and forcible for several succeeding hours, the labour made no progress and as various means had been tried, such as bleeding, secale cornutum, purgatives, and salines, and I think a dose of laudanum, without any increased probability of it being soon brought to a termination, it was decided in consultation that the patient should be delivered by the aid of instruments. The os uteri, I have stated, was fully dilated, the ear could be felt above the brim of the pelvis and to one side of the symphysis pubis; the forehead was the presenting part, with the face towards the pubis; not much of the head had entered the superior aperture of the pelvis, and in the absence of pains the finger could readily be passed round it; and the vagina was so dilatable that a small hand was easily passed within it. Dr. Conquest considered the situation of the head too high up for the safe or favourable employment of the forceps, and that in all probability we should be obliged to resort to the operation of cephalatomia.

Dr. Conquest exhibited to us the whalebone vectis, which he said was the invention of a gentleman whose name I do not remember, but the maker's name is Maw, of Aldersgate-street. He strongly recommended it as a safe and useful instrument, capable of affording all the aid to be obtained by the forceps without increasing the danger. It is formed of a thin loop of whalebone affixed to a handle. This instrument was passed over the occiput with the greatest facility by Dr. Conquest, and traction was made by him and myself alternately during the presence of pains. After a few efforts the head descended a little; by persevering in the traction it was brought without the os externum, in half an hour from the time the instrumental assistance commenced. Dr. Conquest had some reason to expect that, as the occiput was brought down, the face might ascend, but this did not happen: the instrument being applied to that part of the occiput adjoining the vertebræ, traction brought down the head as it presented, face and forehead first. The child was dead, as was expected, no motion having been perceptible for many hours, and the patient had been thirty in labour. The placenta was adherent to the uterus, and required manual assistance for its removal. The recovery of the patient was perfect and uninterrupted. I was much pleased to see the delivery effected so easily and by such simple means, and I cannot do otherwise than join Dr. Conquest in recommending this very valuable instrument to those of the profession who may not have seen or heard of it.

Medical Gazette, June, 25, 1841, p. 540.

105.—THE USE OF THE ACTUAL CAUTERY IN PROCIDENTIA UTERI.

By J. Adair Lawrie, M.D., Surgeon, Glasgow Royal Infirmary.

[The following is an interesting case, showing the efficacy of this valuable remedy in procidentia uteri. Christian M'Lean, æt. 18, a servant, while

carrying a heavy tub, felt something give way in the pelvis, and as if the vagina immediately afterwards was unusually distended. Some days after this, the uterus distended the vagina, and rapidly descended so as completely to prolapse. It could easily be returned by pressure, but again descended almost immediately. She derived no benefit from the free application of the nitrate of silver, astringent injections, pessaries, bandages, and the ordinary treatment. Strips of the mucous membrane of the vagina were dissected off from the lateral and posterior parts of the vagina, without any benefit.]

On the 2d of October, the uterus being returned, Weiss's three pronged speculum was introduced and dilated, and the actual cautery freely applied to both lateral surfaces of the vagina, nearly as high as the uterus. The operation gave considerable pain, and was followed by œdema of the external parts, retention of urine, some pain of abdomen, and hysterical symptoms, which readily yielded to mild treatment. She was kept in the recumbent posture till the 13th of November, and in the hospital till the 8th of December. On the latter date the following report was entered in the journal. "Not the slightest tendency to renewal of the procidentia; she has no feeling of prolapsus. Uterus felt nearly in its natural position, with a circular contraction of the vagina a little below os uteri. The contraction firm, but quite elastic."

July 18, 1841.—She returned to the hospital, and the following report was taken. "Continued to do well till ten days ago, when, after having been employed for two days in the standing posture, used unwonted exertion, and afterwards taking a long walk, the prolapsus returned, and is gradually increasing; but the external tumour is not yet nearly as large as when she was first admitted."

July 25th.—The actual cautery was applied in the same manner as formerly, and was followed by the same train of symptoms, which subsided under one bleeding, aperients, fomentations, &c. She was confined to the recumbent posture till the middle of April, when she was allowed to walk, with a T bandage, and a compress on the perinæum. On the 25th of that month she was dismissed cured. I have heard of her within these few days. She remains free from prolapsus, or any tendency towards it.

Remarks.—I am not aware that the actual cautery is in common use, in this country, as a cure for procidentia. The above case appears to me worthy of being recorded, as showing that it will succeed in extreme cases, after the failure of the more common operation with the knife. In future I should prefer the cautery, as being rapid and easy of application, and so far as two applications can prove, not followed by any bad consequences, and successful.

Medical Gazette, Aug. 6, 1841, p. 756.

106.—ACCIDENTAL RUPTURE OF THE UTERUS AND ESCAPE OF A FŒTUS INTO THE ABDOMEN.

By Henry K. Randell, Esq. F.R.C.S.

[Mr. Randell relates the following case, which needs no comment.]

Mrs. ——, of this village, (Acle,) ætatis 35, of pale aspect, but plump appearance, sent for me on the evening of the 3rd of April, 1841, in consequence of her having been attacked during the day with pain in the lower and fore-part of the abdomen, recurring at intervals of about a quarter of an hour. She stated that she believed herself to be about five months advanced in pregnancy, and had felt the motions of the fœtus about three weeks pre

viously. She had passed water repeatedly since the commencement of pain, but there had been no escape of any other fluid from the vagina. The pulse was 92: tongue a little white, and she was thirsty. The bowels had not been relieved for three days, and she was naturally very costive. While sitting by her bed-side she experienced a recurrence of pain; and placing my hand upon the abdomen, I felt immediately a decided uterine contraction.

There was a good deal of tenderness generally about the whole abdominal surface, which she said she had felt for some time. I remarked to her also the extreme enlargement of it for a person no further advanced in pregnancy than she had stated herself to be: and in reply she observed, that she was not exactly certain, for she had been taken very unwell about six weeks previously, and had been once slightly so since that period, and that ever since she had felt altogether very strangely at times. She was certain, however, she had not felt the child until within the last three weeks, and then but very faintly. Considering it probable that premature labour was about to commence, I merely ordered her to keep quiet in bed, and to take an ounce of castor oil immediately; and if it did not relieve the bowels by the morning to repeat the dose, and likewise to foment the abdomen by warm moist flannels, and to acqaint me in the event of a recurrence of pain.

[The patient continued after this, in a variable state of health. On the 10th she was suddenly seized with hæmorrhage from the uterus, accompanied with occasional small grinding pains, which eventually ceased. The case is then continued as follows:]

She continued in this way without any material alteration in her feelings, until the 20th, with the exception of all loss of feeling respecting the fœtus, since the last attack of hæmorrhage, and that the abdomen appeared to be more relaxed and flabby. The fœtus, too, which if possible, was to be more distinctly felt than ever, she remarked, appeared to settle or gravitate to the most depending part, according to whichever side she rested upon; although its principal situation was still on the right side of the umbilicus, and a little above it. On the morning of this day, however, (20th), she had been attacked with small grinding pains, and had passed a few coagula, mixed with what appeared to be portions of deciduous membrane. I therefore made an examination per vaginum, and for the first time felt the os tincæ relaxed and dilated to the extent of a crown-piece, and its mouth occupied by a coagulum. On removing this, and introducing the index within its cavity, I felt, although scarcely within touch, something like the head of a fœtus. I therefore directed her to keep very quiet, to take only broth and gruel alternately, in order to support her strength, and to acquaint me as soon as the pains began to increase. I heard no more from her until six in the evening, when, on my return from visiting my other patients, I found they had twice sent for me.

On examination at this time, I found the os uteri two thirds dilated, the fœtal head presenting, and just dipping below the superior margin of the pelvis, and that there had been a constant draining of arterial coloured blood during the day. The pulse, however, was good, she had taken a good deal of nourishment, and had not once complained of feeling faint. As the pains appeared tolerably efficient, I suffered her to go on without rendering her any more than the ordinary assistance; but after waiting three quarters of an hour, finding the head made no progress, and that the pains also began to flag, I gently introduced the vectis, and speedily extracted the fœtus, which appeared to have attained the age of seven months. But little contraction of the uterus followed, although I gave her (as is my usual custom), 35 drops of laudanum, and half an ounce of brandy, in a wine glassful of cold or tepid water, and made use of pressure and friction with my hand on the abdomen for twenty minutes or longer. On doing so, however, I still felt the fœtus in

the abdomen as plainly as ever, only that it now appeared to have sunk a little lower down; and thinking it just possible that the parietes of the uterus might be so extraordinarily thin, in this case, as to deceive me as to its being extra-uterine (although I believe I could still plainly distinguish the uterus by itself in the hypogastric region, only more contracted than before), I determined, as there were no urgent symptoms, to wait a little previous to my attempting to extract the placenta, as is usual with me at the expiration of this portion of time from delivery. No flooding, or any other untoward symptom succeeding, I waited for an hour and three quarters, when, for the first time since the birth of the fœtus, she suffered a slight pain; this was soon followed by others, and by gentle flooding. I immediately introduced my fingers as high as I could reach, and felt nothing but the placenta. I then gently introduced the left hand into the uterus, and still no fœtus was to be felt.

Having satisfied myself, therefore, that the other child was not in the cavity of the uterus, I proceeded at once to extract the placenta, which I found partially adherent to the fundus uteri; and on separating it carefully with my nails throughout its whole extent, I found a portion of it elongated, and stretched towards the upper and back part of the left side of the uterus. On tracing this elongated portion very carefully, I found that it perforated the uterus at this part, by means of what appeared to my touch a somewhat narrow, irregularly oval sort of opening, the edges of which felt contracted and tense, and which was barely sufficient to admit the index more than half way, and beyond which I could feel nothing but what I imagined to be softened placenta. I therefore detached this elongated portion of placenta, which readily gave way on slight stretching, and removed the whole. The contraction of the uterus followed the immediate withdrawal of the hand, and consequently there was no further hæmorrhage.

I immediately placed my hand upon the naked abdomen, and could now distinctly feel the empty and contracted uterus; the fœtus before mentioned in nearly the same situation: and above the situation of the iliac fossa in the left side, another substance, which gave the idea, from its irregularity, &c. of another fœtus; but this, of course, was doubtful, as I could not clearly define it. The case, however, was now perfectly clear to my own mind, viz. that she had sustained, by some means or other, a rupture of the uterus, and that the fœtus or fœtuses had escaped from the uterus into the abdominal cavity, whilst one, and most likely that which happened to be most inferiorly situated, had remained. Or it might be that the retained one had pursued its proper course, whilst the other or others had escaped from the fallopian tube at the first into the abdomen, if at least such a case be possible. Upon inquiry, however, subsequently, I learned that about six weeks prior to this period, she was one day in the act of pumping from a pump, the handle of which was suspended higher than usual, and that consequently, she had been obliged to use considerable exertion in order to raise the water; and, whilst doing so she experienced a very strange sensation in her abdomen, accompanied with fainting, which obliged her instantly to come in and lie down on the bed. Very soon after, she was taken unwell, with a good deal of pain and soreness, and that these symptoms continued with very little variation for nearly a week, and obliged her, from the excessive feeling of weakness they induced, to keep her bed nearly all that time. After keeping perfectly still, however, for the period I have mentioned, and taking a little castor oil occasionally, she began to mend, although she had not felt so strong ever since as she had done before, and found herself incapable of the least exertion. Such was the account she gave me.

Having gently supported the abdomen with a broad bandage, I directed her to be placed in bed, and the most perfect quietude enjoined. At the end of an hour, I again visited her, and found her as comfortable as could be ex-

pected. No bleeding had supervened, there had been but very slight pain, and she seemed disposed to be affected by the opiate. I therefore left her for the night, desiring I might immediately be sent for if any change arose in the symptoms.

21st.—I visited her at half past six, and found she had slept only half an hour. She had felt but very little pain, but complained of very great exhaustion, and cold clammy perspirations. Pulse 132, and feeble: no hæmorrhage, however, but a very copious discharge of highly offensive watery fluid. There was but very little tenderness of the abdomen, and on examination, the uterus could be felt firmly contracted, just above the pubes, and the two other fœtuses as plainly as before. No urine had been passed.

I ordered her to take a fourth part of the following mixture every four hours.

Ammon. Subc. ʒij.; Tinct. Cinch. Co., Tinct. Hyoscy. aa. ʒij.;
Mist. Camph. ℥vj. ft. mist.

At the end of a week from delivery, I again carefully examined the abdomen externally, and now, as plainly as ever, felt the fœtus in the hypogastric region; the presence of a second fœtus was, however, no longer clearly to be detected. The lochial discharge, though irregular, still continued, but was less fœtid, and the general health was rapidly improving.

May 27th.—From the last date to the present period she has been progressively improving and gaining strength.

August 7th.—Up to the present she has continued as well as might be expected. She still retains a more than usually blanched countenance, and is incapable of much exertion, although she walks out a short distance whenever the state of the weather and roads permit. The catamenia have returned, and are regular.

Medical Gazette, Oct. 1, 1841, *p.* 45—49.

107.—SUPPOSED MENSTRUATION DURING GESTATION, AND AMENORRHŒA IN THE INTERVALS.

Dr. Meurer has recorded an example of this in a woman ætat. 27, pregnant, when he wrote, for the fourth time. She always has had her menses regularly during pregnancy, and only during that time. They come on without any illness; and she has always borne healthy children at the full period. While unmarried, and except during pregnancy, she never menstruated, but she was never unwell from it. Her general appearance is rather masculine; it appears, therefore, that in her as in all viragos, the sexual functions require a powerful excitant, such as pregnancy, to cause them to be energetically performed. The menstruation appearing in such a person during pregnancy may be regarded as a wise effort of nature to relieve the local fulness of the sexual organs, which might prove injurious.

Medical Gazette, Nov. 1840, *and American Journal of Medical Sciences, April,* 1841, *p.* 494.

108.—ABSENCE OF THE UTERUS.

By E. P. Bennett, M.D., of Danbury, Connecticut.

In December, 1833, I was called upon to prescribe for Miss ——, a young lady of about 18 years of age, for retention of the catamenia. She had suffered regularly every month, for the last two years, the usual symptoms of indisposition attendant upon menstruation. She was well formed, of good stature, with well developed breasts. I prescribed for a length of time the

usual remedies in such cases, but contrary to my expectations, without the least benefit. Her general health was improved, but the menses did not appear. The obstinacy of the case led me to suspect organic obstruction. I mentioned this to her friends, and proposed an examination, to which she finally consented. The external organs of generation were perfectly developed in every respect, and perfectly natural. Upon introducing my finger into the vagina, I found that this canal terminated in a cul-de-sac, at the distance of two inches from the os externum. It did not appear like a membrane stretched across this canal, but like a complete obliteration of it. There was no indication of any accumulation of menstrual fluid behind it, although there was a slight enlargement of the abdomen. I introduced a common lancet into this substance the length of the blade, but it penetrated into no cavity; the hæmorrhage was considerable, and as I had had no experience in such cases, I desisted from doing any thing more. Soon after this my patient married, and I lost sight of her for several years. In August 1840, she again applied to me for relief. She stated that she had enjoyed poor health generally, but occasionally she had had *monthly periodical discharges of blood per anum*, which relieved her, but of late they had entirely ceased. I examined her again, and found her in exactly the same condition as before marriage, only the finger could be introduced a little farther by carrying the obstruction before it. I then introduced a finger into the rectum, and a silver catheter into the bladder, and searched for a uterus, but could detect nothing of the kind, my finger coming in contact with the catheter, as in the male subject. In consequence of the discharges from the rectum, I thought there might possibly be a communication between the uterus and rectum, but I could detect none. I accordingly concluded that the uterus did not exist, and the developement of the external organs and breasts, and the presence of venereal desires were produced by the ovaries alone. I stated to her and her husband my views of her situation, explaining the dangers, difficulties, and the uncertainty of an operation, and dissuaded her from having any thing done. In a few days her husband called upon me, and said that she was resolved upon an operation, be the consequences what they might. In compliance with her earnest desire, but contrary to my own judgment, I proceeded to operate, assisted by my kind and judicious friend, Dr. A. L. Williams, of Brookfield. I placed her upon the edge of a bed with her feet upon two chairs, her knees supported by assistants. I then introduced a silver speculum of three-fourths of an inch in diameter, with some difficulty, (as the vagina was quite narrow,) then with the aid of a strong light I proceeded to make an incision with a scalpel, which I had previously prepared, by making a cutting edge upon the end. The substance was very dense and firm, and required considerable force to push the knife onward, which I did in a very cautious manner, until I had made an incision large enough to admit the point of the index finger; then with a finger in the incision and one in the rectum, I examined to see where I was. I then withdrew my finger from the rectum, and by moving the catheter in the bladder, found that as yet I was going correctly. In this way, by cutting, tearing, dilating, and examining, I proceeded on until I had penetrated about three inches into this substance, when the knife appeared to enter a cavity. I suspected at once that I had entered the cavity of the abdomen, but upon introducing a male silver catheter, straightened for the purpose, I found that it stopped abruptly after entering about six or seven inches from the external orifice. Considerable hæmorrhage followed, and she complained of severe pain in the bowels and loins. I introduced my finger, which passed readily up the whole length, but could detect no uterus. I introduced a gum elastic tube, the size of the ring finger, six or seven inches; put her to bed, and gave a pill of opium and calomel. She wore this tube for six weeks, during which time it was taken out several times, and an endeavour to introduce a larger

one made, but this was impossible. So great was the tendency to contraction, that if the tube was left out for two or three hours, it was very difficult to introduce it again. She suffered much from pain and inflammation in the bowels, having several attacks, which were relieved by venesection, calomel, and opium. At the end of six weeks she discontinued the tube, and the incision soon closed, so that she is now in the same condition as before the operation.

American Journal of the Medical Sciences, April, 1841, *p.* 348.

109.—ON THE ADVANTAGE OF KEEPING THE UMBILICAL CORD WHOLE FOR SOME SHORT TIME AFTER BIRTH.

By M. Baudelocque.

In all cases where the infant is born weakly or in a state of asphyxia, M. Baudelocque recommends not to cut the umbilical cord for some time at least after birth. He relates that since he has followed the opinions of Smellie, Levret, Chaussier, &c., on this subject, he has not lost a single case, although when born the child might be in a state of pretty complete asphyxia or apoplexy. He states that, though a child be born in an apoplectic or asphyxiated state, the circulation still continues through the umbilical vein, even though the umbilical arteries should have ceased to beat, and that premature section of the umbilical cord takes away one of the chief aids to its revival.

Edinburgh Med. and Surgical Journal, Oct. 1841, *p.* 546

110.—PARTURITION WITHOUT CONSCIOUSNESS.

By T. E. Rawson, Esq., Kegworth, Leicestershire.

[The following case is interesting in a medico-legal point of view, and ought to be known by every practitioner, especially as the opinions of most eminent accoucheurs are of a contrary nature. Mr. Rawson was called to this case immediately on the waters being discharged. No pain was present, and she was asleep on his arrival.]

On examination I found the os uteri dilated, and the head presenting. The child was slowly and *unintermittingly*, but forcibly, expelled. She betrayed no symptoms of uneasiness whatever, and though I watched her countenance, she did not exhibit the least consciousness of the child's expulsion, but expressed her surprise on seeing it. The child was strong and lively, and, with the mother, did well. The mother was about two-and-twenty, short, plethoric, and *healthy*. She was strictly respectable, and had been married full ten months; indeed, she could have no motive whatever for disguising her feelings.

I conceive the above case is interesting in a medico-legal point of view. Dr. Montgomery doubts the possibility of such an occurrence, "excepting under peculiar circumstances, *certainly not in a first delivery*."—(Dr. M.'s "Exposition of the Signs and Symptoms of Pregnancy.") In Beck's "Medical Jurisprudence" it is said that "the possibility of a woman being delivered without being conscious of it is disbelieved, *excepting some extraordinary and striking cause intervene*." But if such a circumstance *can happen* with a *first child*, it must have its full weight in cases of infanticide.

London Lancet, Nov. 27, 1841, *p.* 296.

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

III.—ON THE SIGNIFICATION AND ENDS OF THE PORTAL CIRCULATION.

By R. Willis, M.D.

[It has seldom if ever been asked why is there such a singular departure in the circulation of the liver from the ordinary mode of the circulation in general. The carbon from the lungs, the bile from the liver, and azote from the kidneys, in the form of urea, must all necessarily be eliminated from the blood in order to preserve it in its purity; and they are all products from the wonderful laboratory which nature has established in the living system: and there is no sufficient reason for supposing that the blood from the intestines contains more of the elements of bile than that from other sources. It moreover happens that occasionally the portal system is found absent and yet bile has continued to be secreted. This is a positive proof that the portal system is not absolutely necessary for the elimination of bile.]

When we look beyond the two higher classes in the animal kingdom, mammalia and birds, we find an important extension of the plan of circulation, which, among them, we see limited to the liver; reptiles and fishes have actually a *portal system of the kidneys*, as well as a portal system of the liver. In fishes, the veins which return the blood from the tail, and frequently some of the internal abdominal organs, such as the ovaries, or testes, and the swimming bladder, unite into a trunk, or trunks, which, instead of falling into the abdominal cava, proceed to the kidneys, and there undergo distribution, from stems to branches and capillaries, precisely as the vena portæ is distributed to the liver in quadrupeds and man. In reptiles there is also a renal as well as a hepatic portal system, the veins which are ramified through the kidneys in this class collecting their blood from the tail, hinder extremities, and abdominal parietes. It was even supposed by Jacobson of Copenhagen, who first called attention to the peculiar distribution of the veins to the kidneys which has just been indicated, that the same thing existed in birds; but this was an error; there is no renal portal system in birds, although there is an evident approximation to it; for the vessels which return the blood from the tail, legs, &c., of birds, form two large trunks which pass over the kidneys and receive contributions from them in their course to join the portal system. And this, by the way, is another argument in favour of the view that it is of no moment whence the blood is derived which feeds the liver; had the blood, which comes from the legs and tails of birds, not been fitted to yield the elements of bile to the peculiar elective force of the liver, it would not have gone to be subjected to the action of the organ. What then is the reason of the portal system, whether of the liver or of the kidney, among animals? It appears to me obvious, *It is a contrivance—a most admirable contrivance—to economise arterial blood.*

Of all the matters which are evolved in the course of the vital acts by which the body is maintained in its integrity, and by which its various wonderful attributes are manifested, no one appears to be so decidedly a poison

as the carbon. It is on this account that the entire mass of the circulating fluid is sent, in all the higher animals, through a special apparatus, in which the free, or superfluous carbon is literally burned out, before the blood is fitted for re-distribution to the system at large. Urea and bile, other products of the chemistry of the living body, are not so deleterious as carbon; had they been so, the whole mass of circulating fluid must have been sent through the kidneys and the liver just as it is through the lungs. Only a part of the blood requires to be subjected to the action of these organs in order to be maintained in sufficient purity for even the most important ends in the economy.

In the higher classes of animals, the kidneys are not of such magnitude, but that they can be fed with arterial blood without detriment to the rest of the body,—the quantity that must be subject to their action, in order that the amount of urea, salts, &c., mingled with the general circulating mass, may be kept within due bounds, is not more than can be afforded. But the supply of so large a viscus as the liver with arterial blood, for a purpose which, however important in itself, is still only secondary, would have been a serious matter, and would have implied an increase in the pulmonary system especially, to an extent that must have been felt as inconvenient. Had the liver been furnished with arterial blood, as the means of affording bile, it must obviously have had a vessel sent to it of a calibre equal to the sum of the vessels whose contents are finally collected into the portal vein. Nature goes to work more economically; she first uses the blood of the great abdominal arteries to vitalise the viscera, and then gathering this into a common trunk, she sends it to minister to the function of the liver,—this blood as a vivifying fluid is exhausted for the time, but it will still yield the elements of bile if subjected to the elective affinity of the liver. The whole system of the liver is, in fact, calculated upon economic principles; the bile is necessary to the completion of the process of digestion, and, at the same time, it contains principles which, if retained, prove poisonous.

If we observe this husbandry of arterial blood in the higher animals, among which the respiratory system is so largely developed, we might, *a priori*, have expected an extension of the plan in inferior grades of creation, where the pulmonic system degenerates notably. And, accordingly, we have seen that, in reptiles, where the lungs become cellular sacs, and among fishes, where they are replaced by gills, not only is the bile, but the urine also, elaborated from venous blood. The small quantity of arterial blood sent to the liver, in all classes, by the hepatic artery, and to the kidneys, in reptiles and fishes, by the emulgents, is not to supply the pabulum of their special secretions, but to the end that they may be vivified and nourished like every other part of the organism to which they belong.

To ask whether secretion can take place from venous blood or not, therefore seems to me a most puerile question. Had not secretion been destined to take place from the blood of the vena portarum, nature would not have been at the pains to distribute it through the liver,—the peculiar arrangement is already an answer to the question; the end of it is, as I have said, to economise arterial blood.

London and Edin. Monthly Journal of Medical Science, Sep. 1841, *p.* 628.

112.—ON THE CONNECTION BETWEEN MALARIA AND THE SPONTANEOUS EVOLUTION OF SULPHURETTED HYDROGEN FROM DIFFERENT LOCALITIES.

By Professor Daniell, King's College, London.

[It has long been known as a fact, but never satisfactorily accounted for, that when ships navigated certain seas and estuaries, their copper sheet-

thing became unusually injured, apparently by some chemical decomposition—but for some time this was not even suspected; and an action was in one instance brought by certain merchants against the company which coppered their vessel, on account of the supposed badness of the article; and the verdict was against the defendants. This decomposition is found to take place only or in a great degree in certain localities where the sulphates, as those contained in the sea water, act on dead vegetable matter, giving rise as will be seen, to the evolution of sulphuretted hydrogen.

The Lords of the Admiralty first directed the attention of Professor Daniell to the examination of certain waters of the ocean, in which their ships had been injured. The first water which he examined was from the river at Sierra Leone, taken at three miles from the mouth. Upon drawing the cork there was a powerful smell of sulphuretted hydrogen, which he at first thought to have been generated from some change which had taken place in the water after it had been bottled, from the decomposition of some animal or vegetable substance, but he found this to have been impossible, as the whole sediment did not exceed half a grain.

Sulphuretted hydrogen is found in the waters of Harrogate, and Aix-la-Chapelle, as well as in the estuaries of large rivers, and immense tracts of ocean. In the ocean it is found on the western coast of Africa alone, through an extent of more than 16 degrees of latitude, and reaching in places forty miles seawards, making altogether an area of 40,000 square miles in extent.

The idea of the origin of this sulphuretted hydrogen was first suggested to Professor Daniell by a memoir of Dr. Malcolmson, who speculates upon the origin of sulphuretted hydrogen in the saline lakes of different parts of the world, being "the decomposition of the sulphates in the waters by the carbonaceous matter of vegetables." Professor Daniell tested this hypothesis by the following experiments:]

On the 2nd of November, 1840, I placed a quantity of newly-fallen leaves in three glass jars capable of holding about a gallon and a half of water.

No. 1. Upon the first I poured about a gallon of New River water.

No. 2. Upon the second I poured about the same quantity of the same water, in which three ounces of common salt had been dissolved.

No. 3. Upon the third, the same quantity of water, in which three ounces of crystallized sulphate of soda had been dissolved.

The three jars were then placed in a warm chamber, the temperature of which varied from about 70° to 110°, and the water was filled up from time to time, as it evaporated, and the mixture well stirred.

Upon examining them on the 5th of February 1841, (three months,) the following was found to be the state of the jars:

No. 1 had a very disagreeable odour, but produced no change whatever upon paper soaked in the acetate of lead.

No. 2 was perfectly sweet, and possessed, indeed, a rather agreeable odour. It produced no effect, of course, upon the test paper.

No. 3 had a most insupportable sickening odour, much worse than that of pure sulphuretted hydrogen, and instantly blackened paper soaked in acetate of lead, throwing down sulphuret of lead with a metallic lustre.

Medical Gazette, July, 16, 1841, *p.* 671.

[Professor Daniell then goes on to say:]

The analysis of sea waters generally, and these analyses in particular, show that a large proportion of sulphates is always present in them, and there is no doubt that extensive mud-banks must be formed at the mouths of the African rivers, within the tropics, consisting chiefly of vegetable detritus, in the exact state which is most favourable for this action.

But now a much more important and interesting question than that of the preservation of the copper sheathing of ships forces itself upon our attention, and that is, whether the existence of this deleterious gas in the atmosphere, which must necessarily accompany its solution in the waters, may not be connected with that awful miasma which has hitherto proved so fatal to the explorers and settlers of the deadly shores of Africa; and whether, if so, science may not suggest something to palliate an evil which is so deadfully opposed to the progress of civilization of those parts.

When this matter was first brought under my consideration, I was surprised that the nauseous smell which must necessarily be evolved from water impregnated with this gas, at so high a temperature as that of the equinoctial regions, had not been noticed. I have in consequence turned to some of the accounts of the late travels in Africa, to seek for evidence upon the subject: and in the narrative of an expedition into the interior of Africa, by the river Niger, by Macgregor Laird and R. A. B. Oldfield, I found the following important observations:—

"The principal predisposing causes of the awful mortality, were in my opinion the sudden change from the open sea to a narrow and winding river, the want of the sea breeze, and the prevalence of the deadly miasma, to which we were nightly exposed from the surrounding swamps. *The horrid sickening stench* of this miasma must be experienced to be conceived: no description of it can convey to the mind the wretched sensation that is felt for some time before and after daybreak. In those accursed swamps, one is oppressed not only bodily but mentally with an indescribable feeling of heaviness, languor, nausea, and disgust, which requires a considerable effort to shake off."

Now, these observations are made in the very locality from which some of the first waters which I examined were taken, and nothing more is wanting to identify the cause of the rapid decay of the ship's copper with that of the mortality of the climate.

It has been experimentally found, that so small a mixture as a fifteen-hundredth part of sulphuretted hydrogen in the atmosphere, acts as a direct poison upon small animals, and the sensations of langour and nausea described by Mr. Laird, are exactly those which have been experienced by persons who have been exposed to the deleterious influence in small quantities.

The symptoms, in cases where this gas is breathed in a state of concentration, well known to medical men, are sudden weakness, and all the signs of asphyxia: the individual becomes suddenly weak and insensible: falls down, and almost immediately expires. When the exposure has been too slight to cause serious mischief, the individual is affected with sickness, colic, imperfectly defined pains in the chest, and lethargy.

The close investigation which I have since given to the subject, more and more convince me that the worst cases of *malaria* are generally connected with the presence of sulphuretted hydrogen.

There is a paper in the twenty-ninth volume of the *Annales de Chimie*, p. 225, by Signor Gaetano Giorgini, which offers the strongest possible confirmation of my opinion.

"The observation of Signor Giorgini has been drawn to the state of the atmosphere in the neighbourhood of certain marshes on the borders of the Mediterranean; and by reference to historical data, and various documents, he has proved the great importance which attaches to the circumstance of their being, at times, in communication with the sea, so as to have a mixture formed between their waters and that of the sea. Both ancient and modern authors have announced the fatal effects produced in the neighbourhood of marshes by such mixture, and a local belief of the same thing is very common and strong.

On the south of the Ligurian Apennines is a marshy shore, bounded on the

west for twelve miles by the Mediterranean, on the south by the river Serchio, and on the north by the river Frigido, a torrent commencing at the foot of the Appenines, in the state of Massa di Carrara, running three or four miles over the land, and then falling into the sea. The plain is from two to four miles wide, and is traversed by a few short torrents or streams; among these are the rivers Camajore and Pietra Santa, which divide the plain into three separate basins. The rain and spring waters which flow into the three basins mentioned, are slowly discharged into the sea by natural or artificial canals, penetrating the sand-banks, which exist on the sea-side.

The level of these stagnant waters is between that of high and low water in the neighbouring sea; there being but little difference between these two points in this part of the Mediterranean. In this state of things, formerly, when the waters of the sea rose from any circumstance (unless the waters of the marshes were very high,) they used to return up the ditches, fill the basins, and inundate the country to the foot of the mountains; and with a north-west wind, the waves used to penetrate with force to the interior. The mixture of fresh and salt water thus formed, and which, in summer, was rarely changed, became corrupt, and spread infection over the neighbourhood of the most destructive kind.

In this way the effects of the malaria were reproduced annually in the neighbouring country, with all their peculiar horrors: the population, though small, presented feeble infants and diseased men, old age being unknown there. All attempts to avoid the scourge, by living on the hills, or in the interior, and frequenting the plain when the business of cultivation essentially required it, were in vain; they fell victims to the extensive influence; and such being the effects upon inhabitants of the country, much more rapidly did a stranger suffer from the deleterious atmosphere; one single night, in the months of August and September, causing inevitable death to the incautious traveller who should stay so long in this infested country.

Such was the state of things until 1741. Previous to that time, Gemignano Rondelli, Eustachio Manfredi, and Bernardino Zendroni, had successively insisted upon the necessity of excluding the sea from these marshes; and, in 1740-41, a sluice, with folding doors, competent to give emission to the waters of the marsh, but prevent the sea from entering, was constructed at the mouth of the Burlamacca. The most complete and unexpected success immediately followed upon, and has continued with this work. The year after its completion there were no appearances of the terrible maladies which previously appeared every year. The inhabitants soon recovered health, and the land being very fertile, the population rapidly increased, and is increasing at this moment. Viareggio has become a considerable town, and so completely has all suspicion of its insalubrity disappeared, that the first families of the city of Lucca have for years built their summer seats there. Notwithstanding the success of the precautions taken at this part of the coast, the neighbouring parts were long left a prey to the destroying influence of the mixed marsh-waters; and the inhabitants around the basins of Motrone and Perotto were not considered until the year 1804. In the years 1809, 1810, 1811, similar means were taken, with the best effects to the inhabitants of Montignosso and the vicinity; and, in 1812, a sluice was constructed on the Cinquale, which perfected the arrangements in this part, and made a large portion of country equally healthy with Viareggio. To complete the arrangement, it was now only required to guard the ditches of Motrone and Torrfalo with sluices; the former was finished in 1819, and the latter in 1821. Since that time the diseases of malaria have ceased so entirely at all points, that no other dangers are now incurred regarding the insalubrity of the atmosphere than such as may arise from neglect of these sluices, which the inhabitants of the country should regard as their palladium."

May not the jungle fever in India depend for much of its malignity upon

the same cause. The soil in many parts abounds not only with the nitrates of potassa and soda, but the sulphates of soda and magnesia; these become washed down by the periodical rains, and mingling with the decaying leaves, the mutual reaction takes place.

To bring the matter nearer home. Is it impossible that the minor insalubrity of parts of our own coast, such as that of Essex, may have some reference to the same causes acting in minor degrees? The mud of the river Thames may surely produce the same decompositions of the sulphates in the sea water as that which we have traced in other places. I find that there is a prevalent idea, which deserves investigation, that the ships in the Medway are liable to greater waste of their copper than those at Woolwich, or other places on the Thames.

By the kindness of Sir Isambard Brunel, I have been favoured with the particulars of a very remarkable phenomenon of this kind, which attended the progress of the Thames Tunnel, and which proved a great annoyance, and was the cause of great suffering to some of the workmen. This was the evolution of great quantities of carburetted hydrogen mixed with sulphuretted hydrogen gases. In 1837 the smell was extremely fœtid. "It frequently rushed out from between the small boards of the shield, used to scour the ground with great force, bursting into a flame, which sometimes extended over some feet, and was generally accompanied by a loud roaring or hissing noise."

And here again it may be asked, as with regard to the injurious effects of sulphuretted hydrogen upon the copper of ships, can science indicate a remedy, as well as point to the cause of the disease? And again I would reply, that by furnishing an easy method of detecting the evil, she furnishes you with timely warning to fly from the infected regions. No vessel should be allowed to cast ancher or linger in sulphuretted waters. But if paramount duty should oppose itself to such a course, we have a certain remedy to propose. You have seen how instantly chlorine destroys the gas. Chlorine and sulphuretted hydrogen cannot co-exist together. Plentiful fumigations of chlorine would therefore infallibly prevent the deleterious effects; and the antidote is at once cheap, and incapable, under proper management, to produce any injurious effects to counterbalance its advantages.

Medical Gazette, July 23, 1841, *p.* 700—703.

[The above interesting opinions appear to have been some time since anticipated by Dr. Robert Hamilton, of Lyme Regis, the author of a pamphlet published in 1793, on the marsh remittent fever. This fact is communicated by Dr. England, of Wisbech, who gives the following quotations from this pamphlet of Dr. Hamilton:]

"The remittent fever is the same disease every where in the neighbourhood of low swampy or marshy grounds, which are subject to be overflowed by the freshets after great rains, or to be *covered occasionally by inundations from the sea.*" In allusion to the undrained state of marsh land and the Bedford level at that period, he says, "The banks in those places near the sea are subject to be broken by the impelling force of high tides, accompanied with strong gales of wind; and those in the inland parts of the country are liable to breaches from the weight of water after great rains. The inundations from the sea are generally followed by worse consequences, in respect to health, than those from the fresh water. If they extend far, they cover much low ground under cultivation, and fill many ditches, which in many situations, cannot be drained by any other means than evaporation by the heat of the sun. Dead fish, left upon the overflowed land, become putrid, and animal and vegetable life destroyed by salt water, in the various insects, reptiles, and smaller order of animals, and the different vegetable productions which happen to be covered by it; and the miasmata which must arise from such

an accumulation of putrefaction produce the worst kind of remittent fevers." After one of the eruptions of the sea, he observes, "The stench of the exhalations arising from the corrupted stagnant water, and putrid half-dried mud or ooze, was most intolerably offensive; the effluvia was almost suffocating; and it was almost impossible to avoid a nausea, a languor, and a constant spitting, whilst within their influence."

Medical Gazette, Aug. 12, 1841, *p.* 799.

[We will likewise here give the opinions of Dr. James B. Allan, which may be seen in a most interesting paper which he has lately published. It is remarkable how nearly this gentleman agrees in opinion as to the apparently true cause. His paper is "On some of the Predominant Diseases of the African Islands." Speaking of the Comoros he says:]

Looking on its high and ragged peaks stretching from end to end, a medical visitor would be suspicious of its salubrity on approaching, and still more on landing. Ravines, opening to the sea, cleave the whole country into hills and valleys. Some of the former are of surmountable ascent, others are a thousand and more feet in perpendicular height, having streams of water gushing over them. The valleys, composed of alluvial soil, are thickly wooded, while the hills, formed of a stiff clay, based on granite and greenstone, are covered with grass up to their necks and rocky summits, which are only discernible here and there over a dense forest. The change produced by such an elevated vegetation as this on the state of the surrounding atmosphere, would, on a comparison with different results in other islands over the globe, form a subject of no mean interest. Here, however, such an inquiry would be out of place; and noting only that the effects of this difference are, as already mentioned, rains during the whole year, causing in the heated valleys an endless growth and decay of vegetable matter, we shall pass on to Zanzibar. This island is apparently not a thousand feet high. Low and swampy along the coasts, encircled by extensive coral reefs, and many low, flat jungly islets, it is also wooded throughout. Except in the neighbourhood of the town, where there are some sand banks, no soil nor rocks were seen to interrupt the layer of rich black loam that spreads over the country, producing every tropical plant, particularly those of the palm tribe, in great abundance. Constantly subject, like most low lands bordering on the equator, to alternate rains and calms, it is, moreover, submerged by the tides in many places, although these in such low latitudes rise only six or eight feet. Thus differing from Johanna as much in formation, and nearly every external character, as in position, yet it is governed by similar physical changes, peculiarly adapted for the same rapid advancement of decomposition of vegetation, and so far developing the same exciting cause of disease in common with the next country to be considered—Madagascar.

[Here we have rapid and extraordinary decomposition of vegetable matter in proximity to the ocean,—"it is submerged by the tides in many places." The wood in some of the bogs is so dense down to the brink of the ocean that landing is almost impossible—"the rankness of vegetation is almost incredible."]

No land could be better adapted for retaining moisture, or for the speedy growth and equally quick putrefaction of the herbage it bore; and accordingly in the months of December, January, and February, the general surface was a green putrid pulp. On going out before sunrise, the atmosphere was, as in the jungles of India, like the smoke from gunpowder, and in the intervals of sunshine the same sickening vapour could be seen rising from the earth like a white cloud. Perhaps in this atmosphere was suspended the great remote cause of fever; at any rate, from April to November, no such atmosphere was perceptible, and people calculate then on health, with as

much certainty, as in the most wholesome climates of the world. Conjoined to decayed vegetable effluvium, there was another not unworthy of notice. From about ten miles south of Point Rafallo, runs out one of those great coral reefs which everywhere surround the coast, forming safe and extensive harbours. At the time of the rains, the curious inhabitants of the coral were observed to be liable to as hurried life and death as the vegetable kingdom. On the ebbing of the tide, this extensive animal surface was in a great measure left dry and exposed to the sun's rays; and although the shore was nearly a mile distant, yet the odour given off was disgusting in the extreme.

[Here we have similar facts to those related by Professor Daniell. The overgrown vegetable matter, the animal matter, and the disgusting odour which evidently resulted from the evolution of sulphuretted hydrogen as before related. When the marsh remittent fever commenced, the patient felt "nausea, languor, inquietude, yawning, chilliness, and thirst. Shortly the nausea disappeared, but the other symptoms became confounded with heaviness of inspiration, a sense of tightness over the chest, head-ache, and intolerance of light, pain along the spine, especially in the lumbar region, and an uneasiness, amounting to pain, throughout the whole frame, which the most enduring tried in vain to sooth by constant change of posture, &c." The mortality was dreadful. In Budderam 300 out of 1100 native soldiers died. In the French garrison the mortality was one-third of the whole: "not ten per cent. of those attacked recovered." The following circumstance also confirms what Professor Daniell advances with respect to the poison not crossing water:]

It is deserving of notice, that all who slept on board ship escaped: every victim seen or heard of, had passed one night on shore; and no instance of recovery was known in those who were taken on board affected. The writer had a vessel of one hundred tons moored within the reef at Foul Point under his charge, mainly for the purpose of protection from sickness. Such as remained in her all night were quite healthy; but not one slept on shore with impunity. The same occurred every where else. There is, however, a fact still more worth mentioning: no man labouring under any form of dysentery or diarrhœa was attacked. This was first observed at Johanna, in May, 1833. Two dysenteric seamen were encamped on shore, and three healthy men, envying their inactive life, escaped from the ship, and together with some men from an American ship, slept two or three nights in the tent. The consequence was, that all died of remittent, except the two former. Several other instances were subsequently mentioned; and at St. Mary's, exemptions of the same kind were quite common.

London and Edinburgh Monthly Journal of Medical Science, Aug., 1841, *p.* 548—551.

[Another singular fact mentioned by Dr. Allan is that at Port Lewis a land breeze prevails uninterruptedly for ten months in the year, and during that time intermittent fever is seldom seen:—but with the commencement of the breeze from the sea to the town, the intermittent fever commences and prevails so long as the sea breeze continues. The remittent fever above described baffled all the medical men. The intermittents were more successfully treated with large doses of sulphate of quinine, from 20 to 25 grains at once. The first dose would produce a glow of heat over the whole frame, palpitation, throbbing of the carotid and temporal arteries, suffusion of the conjunctiva, and giddiness. In an hour or so this ended in profuse perspiration and sleep. During the intermission another dose was given, which in the double tertian always prevented the second day's attack. This medicine was continued with wine every six or eight hours, and generally succeeded in checking the disease.]

113.—OUTLINE OF A PHILOSOPHICAL HISTORY OF THE REPRODUCTIVE FUNCTION.

By W. B. Carpenter, M.D., Bristol.

[We extract the following paper verbatim, as a condensation of it would be difficult.]

1. In the Red Snow, and other simple cellular plants, (among which we may now reckon the *Torula Cerevisii*, or yeast-fungus) *each cell* reproduces the species by bursting, so as to liberate the reproductive granules which it contains. These granules I regard as equivalent to those which compose the *nucleus* or *cytoblast* of other cells; and this, so far from fulfilling its functions in the production of the original cell, (as Schleiden supposes) I believe, with Dr. Barry, to resolve itself into the germs of new cells subsequently formed within it. The only difference, then, between a *reproductive* cell and the *ordinary* cells, where these are distinct (as in all but the lowest Cryptogamia) is, that in the former, the granular germs are diffused through the whole cavity, and are developed, when liberated from it by the rupture of the vesicle; whilst in the latter, they are generally (by no means universally) concentrated in one spot, forming the nucleus or cytoblast.

2. When any of the germs of the higher Algæ, the Lichens, or the Hepaticæ develope themselves, the process simply consists in the formation of a primary cell, from which others are subsequently evolved; at first *linearly*, as in the Confervæ, afterwards in the form of a flat membranous expansion, which, in terrestrial plants, absorbs from the earth by its lower surface, and respires, exhales, &c., by the upper; and this first-formed frondose expansion remains as the permanent form of the plant.

3. The germs of the Ferns, equally unassisted in their early development, also evolve themselves into a linear, and afterwards into a membranous expansion of cells; but all the *peripheral* portion of this is temporary, serving as a cotyledon; it is from the *central* portion, that the permanent structure is evolved; and the primary frond, having fulfilled its temporary office of absorption, respiration, &c., decays away like a cotyledon.

4. In the Flowering plant, the cell germs produced in the pollen-grain are received into an ovule, and furnished with nutriment already prepared; but the nisus of development remains the same. The first tendency is, here also, to the formation of a membranous expansion,—the cotyledon, which absorbs, more or less completely, the albumen of the seed; it is from the centre of this that the permanent structures take their origin; and having performed its temporary function of absorbing and assimilating nutriment for the embryo, it decays away.

5. In the Animal kingdom, there is now good reason to believe, that whenever separate germs are formed, they are received into ova, as in phanerogamic plants; spermatozoa and ova having been traced as low as the polypes. But the comparison between the modes of development holds good to a remarkable extent. From Dr. Barry's observations I think it may be inferred that in all instances, the ovum receives its real germ from the spermatozoon, just as the ovule from the pollen-grain in plants. The spermatozoon I consider as nothing more than a long cell, endowed with the same kind of power of movement, which cilia, oscillatoria, &c., possess, and this for the purpose of finding its way into the ovum; a process analagous to the insinuation of the pollen-tube in plants. Each spermatozoon I should regard as analogous to the *whole* pollen-grain of plants, being ejected from the male organs upon the female; and the only difference consists in the mode in which its contained germs get access to the ovule.

6. The first process of development is the formation of a mass of cells, which soon spread out into a membranous expansion,—the *germinal mem-*

brane. This is not flat, however, but spherical, so as to inclose the albumen. The common opinion is, that the layers extend from the cicatricula over the whole yolk, and at last meet so as to envelope it. From Dr. Barry's observations, however, it appears that the germinal mass sends forth hollow process, which gradually absorbs the albumen into its cavity, and so gains the opposite surface of the yolk-bag.

Lond. and Edin. Monthly Journal of Medical Science, Sep. 1841, *p.* 655.

114.—POISONING BY ARSENIC.

[The medical and scientific world of Paris has been for some months in a continued state of excitement with respect to the above subject, occasioned in the first place by certain views advanced by M. Orfila. We shall attempt to give the most important points on which the contest has turned.]

M. Orfila advanced, in what he considers as a new toxicological system the fact that arsenic may be taken into the stomach, and produce death, without any remaining in that organ after death, the poison having been absorbed into the system and deposited in the tissues; and that there is a peculiar tendency to pass off arsenic by the urinary excretion. Acting on this fact, he in several cases of medico-legal investigation used the whole of the tissues, submitting them to certain processes of decoction, evaporation, and incineration, in order to collect and detect the arsenic pervading the whole system. He likewise stated, that he had detected arsenic in the bones of persons who were known not to have taken this poison, he considers it as universally present in certain structures, and gives it the name of *normal arsenic.*

Statements having such a direct bearing on subjects of such awful importance, it was not to be expected, would be received without any examination. The *Academie des Sciences* appointed a commission to investigate the subject. M. M. Flaudin and Danger were the reporters; they advanced the following facts in opposition to M. Orfila's statement.

1st. That animals poisoned with a large dose of arsenic, or acutely, do not urinate.

2nd. That when they do urinate, as after a weak dose, their urine does not contain any arsenic.

3d. That there are generally produced, during the operation recommended by M Orfila, false stains of sulphite and phosphite of ammonia. That these present physical and chemical properties so similar to those possessed by the true arsenical stains, as to mislead even skilful experimenters.

4th. That there is no such thing as normal arsenic, M. Orfila having been deceived by these false stains.

5th. That if the evaporated residuum were deflagrated with nitrate of potash, (as practiced by M. Orfila,) the arsenic might be evaporated, and thus escape detection.

This report being received by the Academie des Sciences, produced a great sensation, as attacking the opinions of a toxicologist so renowned as Orfila, whose statements had been acted on in several delicate cases in the courts of law.

The *Academie de Medicine*, in which M. Orfila possesses greater direct influence, appointed a commission to examine the contradictory statements. These are the conclusions of their report:—

1st. That animals do urinate after a large dose of arsenic.

2d. That the false stains mentioned by M. M. Flaudin and Danger are not

generally produced; these gentlemen having always failed in producing them before the eyes of the commission.

3d. That these false stains when produced, are very readily distinguished from true arsenical stains by the following characters: The arsenical stains are brown, and glisten brilliantly; the false stains are dull. The arsenical stains are soluble in cold nitric acid, the false require boiling; the arsenical stains produce with nitrate of silver a brick-red colour, while the false stains give a yellow tinge.

4th. That the existence of normal arsenic is now questioned by M. Orfila himself.

5th. That carbonization of the residuum after evaporation by means of sulphuric acid (used by M.M. Flandin and Danger) is preferable to deflagration by nitrate of potash used by M. Orfila. But that it is requisite to ascertain that the sulphuric acid used contains no arsenic.

6th. That the instrument recommended by M. Orfila is at the same time the simplest and most effective, viz: Marsh's Apparatus, modified by a lengthened bent tube in the middle of which is placed a piece of asbestos, under which is placed a spirit lamp. The arseniuretted hydrogen is decomposed by the caloric and asbestos, a ring there formed, and the hydrogen escapes pure, and should be burnt in contact with a cold condensing surface to retain the arsenic if any escapes.

[Though not expressed in the words of the report, such are the important toxicological principles which we have condensed from the several lengthened and stormy discussions which have taken place in the Academie.]

Bulletin de l'Academie de Medecine

115.—SUBCUTANEOUS OPERATION IN CASES OF HERNIA.

By M. Guerin, and M. Bouchet.

M. Guerin presented to the Academie de Medecine of Paris, Sept. 28, a patient on whom he had operated July 11th, for old inguinal hernia, by the subcutaneous method. He stated that the patient presented himself at the hospital with two inguinal herniæ "of some standing, perfectly reducible, and easily retained by means of a truss." The operation was as follows: The hernia being reduced, and the patient placed in the usual position, with his thighs separated and semi-flexed, I raised a transverse fold of the skin of the groin, pubis, and root of the scrotum, and drew it from below upwards to a level with the orifice of the inguinal canal. At the base of this fold I plunged a small bistoury up to the entry of the canal, above and to the interior of the spermatic cord, which an assistant held aside. By this opening, I passed a blunt-pointed convex myotome, with a portion of the blade not cutting. Having passed this, I cut with it from behind forwards, and from within outwards. I then turned the blade, and incised successively from above downwards, about the angle of the pubis, the two divisions of the fallopian ligament, and the fibres of the great oblique which there terminate. Lastly, I made several scarifications in the intermediate points.

The operation lasted ten minutes, no fever or reaction followed, and the cicatrisation of the puncture took place immediately. On the fourteenth day the effused structures had become hardened, and were able to resist the expulsion of the hernia. At the end of a month he resumed his work without a truss; no hernial protrusion in spite of a cough and active exertion followed.

Bulletin de l'Academie

[The above case exhibits the advantages which we may derive from the

subcutaneous operation in curing a present annoyance, and obviating a future danger, the paper which follows recommends the subcutaneous method to be used in operating for strangulated hernia itself.]

M. Bouchet, in a journal published in November, has written an elaborate memoir on the subcutaneous operation in cases of strangulated hernia, from which we make the following extracts.

"We purpose to remove the cause of strangulation without opening the sac, by means of a special instrument introduced into its cavity through the internal orifice, by means of a puncture made in the integuments."

He first considers the causes of strangulation, and divides them into two classes, in the one the contracted and indurated neck of the sac, in the other the aponeurotic rings produce the strangulation; he then mentions the tests given by Scarpa to discriminate between these two causes.

In the first case, viz. "when the neck of the sac is the strangulating point, the peritoneum must be included in the division, the operation may be called *intra-peritoneal kelotomy*.

"The instrumental apparatus consists of a bistoury with a narrow blade, like that of the bistoury used in tenotomy and a masked kelotome," (a kind of lengthened and flat trocar gliding in its canule, the writer gives an accurate description of it with two plates.)

"The operation may be divided into four periods,

1st. Puncture of the abdomen and opening of the peritoneum.

2d. Passage into the sac by the internal orifice.

3d. Division of the structure (*debridement.*)

4th. Reduction of the hernia."

First, The puncture should be made at the point, where a fictitious line, drawn from the *antero superior prominence* of the ileum to the *linea alba*, reaches the external edge of the rectus muscle. Here there is no aponeurotic resistance, being lined only by the fascia transversalis and the peritoneum, both easily torn. The skin, adipose tissue, and aponeurosis should be divided with a bistoury. The kelotome should then be used, being directed inwards towards the pelvis, "for in this direction the folds of the intestine yield before the instrument."

Secondly, The kelotome should be glided along the abdominal parietes to the seat of the stricture, and insinuated between the constrictory neck of the peritoneal sac, and the fold of intestine.

Thirdly, Convinced that the kelotome is within the sac, it must be held solidly fixed against the anterior parietes of the sac, so that in drawing back the canula, the cutting edge may be directed upwards and forwards. A slight pressure and sawing motion effect the necessary division.

Lastly, The reduction is effected by the ordinary taxis.

EXTRA PERITONEAL KELOTOMY.

In the second division of herniæ, viz., when the strangulation is produced by the aponeurotic ring, he recommends a different operation, to which he has given the above title.

"Like the last it consists of four periods,

1st. Puncture to introduce the kelotome.

2d. Passage under the ring.

3d. Division: and 4th. Reduction.

The puncture should be made about half an inch below the point indicated for the intra peritoneal operation. The kelotome having arrived at the *fascia transversalis* should be glided towards the ring. The instrument is readily glided under the ring, and the necessary division effected."

[Such are the operations recommended as a substitute for the ordinary method, which has proved so fatal in the Parisian hospitals. There are

some suggestions in this paper which might be acted upon under peculiar circumstances, but great consideration would be required before having recourse to them as the author himself states that hitherto he has only practised them on hernias artificially produced in the dead body.]

Journal des Connaissances Medico-Chirurgicales

116.—SPONTANEOUS CURE OF DROPSIES.

By M. Mondiere.

The author is desirous of drawing attention to the fact that nature occasionally performs a spontaneous cure of cases of dropsy, and wishes to draw a conclusion with respect to their practical treatment from the indications which this fact may afford.

He says, there are few practical physicians but have found dropsies occasionally cured in a very short time by some spontaneous *hyperdiacrisis*, after they have been giving remedies to produce an artificial crisis, whether by stool, urine, &c., and that too in spite of our remedies, which have been acting on other organs. Hence results the necessity of searching out for the tendency of nature, and in order to second it, and instead of using certain routine remedies, the propriety of consulting the antecedents, and finding what is the *predominant secreting organ*.

M. Mondiere considers that a natural or accidental predominance of certain secretions gives to such secreting organs the faculty of furnishing abundant evacuations, which may prove critical in certain dropsies. And that as the morbid condition is often only an exaggerated state of the natural function, the practitioner should endeavour to detect in each case of dropsy what has been the previously predominant excreting organ, and try to establish the critical flux thus indicated.

The writer gives several cases in which there was a predominant secreting organ, and followed the indication with success, as for instance, the occasional abundance of urine, frequent diarrhœa from slight causes, liability to vomiting, and predisposition to excessive perspiration. The following are his conclusions:

1. Crises in dropsies are not rare.
2. That Crises may take place from all the secreting organs, or from the entire mucous membrane, or an accidental secreting surface.
3. That each individual has a secreting organ more active than the other organs, which the physician should detect in order to solicit its activity by appropriate medicines.
4. That it is in vain to attempt even by active remedies to excite an organ which is not predominant in the individual.

L'Experience.

117.—FORMATION OF BONE.

By M. Flourens.

[M. Flourens read before the Academie des Sciences, a highly interesting memoir on this subject; the whole paper is well worthy a careful perusal. The following are the conclusions at which he has arrived from numerous experiments.]

1st. Destruction of the medullary membrane of a bone is followed first by death of the bone, then by the formation of a new medullary membrane, and lastly of a new bone.

2d. The new bone is formed between the new medullary membrane, and the periosteum.

3d. The new medullary membrane, and the periosteum form at first one, and the same membrane, thick and divisible into several layers.

4th. The new medullary membrane at first united to the periosteum, gradually becomes separated from it, the new bone being formed between them.

5th. The tissue of the new medullary membrane at first thick, and fibrous, like the periosteum (which is also then thickened) assumes gradually a texture finer and more delicate, till it resembles perfectly the primitive membrane.

6th. The internal face of the medullary membrane then formed, gradually eats away the old bone and finishes by absorbing it.

[M. Flourens instituted other experiments to demonstrate these phenomena still more clearly, and to determine their succession and progress: these results follow—]

1st. When the medullary membrane has been destroyed, the periosteum, without having been touched, becomes thickened and tumified.

2d. There forms on the external face of the old bone a cartilaginous layer.

3d. This cartilaginous layer emanates from the periosteum, and cannot be detached from it, without laceration.

4th. This layer is the first germ of the new bone.

Thus then, the bone is formed in cartilage, the cartilage is formed in the periosteum. Ossification is then the transformation of periosteum into bone.

[In these cases the medullary membrane had been destroyed. In these cases he destroyed the entire periosteum. The result was—]

A new bone was formed in contact with the medullary membrane [illegible] the old bone. When the external periosteum has been destroyed, the *internal periosteum* or medullary membrane replaces it to a certain extent in the reproduction of bone.

[Other general results—]

1st. There is in all bones an apparatus of formation, which is the periosteum.

2d. There is an apparatus of resorption, which is the medullary membrane.

3d. The medullary membrane is a continuation of the periosteum.

118.—NUTRITIVE POWER OF [illegible]

A very interesting report has been presented to the Academy of Sciences on this important subject by a commission [illegible], and which has conducted experiments during [illegible] strenuously urged the advantages of using [illegible] a substitute for meat in the formation of soups. This has been employed in many hospitals and poor-houses [illegible] and tested the nutritive power, and even the digestibility of this article of food. The commission have also made [illegible] tion of other substances. These are [illegible] arrived:

1st. We cannot by any known [illegible] which, either alone or mixed with [illegible] meat.

2nd. *Gelatine, albumen, fibrin*, taken alone support life only for a limited period, and incompletely. In general these substances soon excite an insurmountable disgust, so that the animals experimented upon will rather perish of hunger than touch them.

3d. The same substances, artificially compounded, and agreeably seasoned, are taken with greater readines and for a longer period, but ultimately they afford no greater support, and the animals so fed at length die of complete inanition.

4th. Muscular flesh, (in which gelatine, albumen, fibrin, are united according to the laws of organic nature, with other substances, as fat, and different salts,) suffices even in small quantities to support life for a long time.

5th. Bones are nutritive in a less degree, but when the contained gelatine is extracted by boiling, or a chemical process, its nutritive power is very much less, and often entirely disappears.

6th. *Gluten*, such as is extracted from wheat or rye flour, is *alone* sufficient to afford complete and prolonged nutrition."

Rapport a l'Academie Royale des Sciences.

119.—SOUNDS OF THE HEART.

M. Cruvelhier, publishes his own observations on an infant born with its heart completely exposed and protruding through an aperture in the thorax: it lived twenty-four hours after its birth. He found only two conditions of the heart, viz. contraction and dilatation; that of repose generally mentioned by authors was completely wanting. During their systole, the parietes of the ventricles became pale, their surface rugged and in folds, and the fleshy colours more marked. "The two sounds of the heart have their seat at the origin of the pulmonary and aortic arteries, and their cause in the flapping *(claquement)* of the sigmoid valves. The first sound which coincides with the ventricular systole, and with the dilatation of the arteries, is the result of replacing *(redressement)* of the sigmoid valves, previously lowered. That the second sound, which coincides with the ventricular systole and with the contraction of the arteries, is the result of the lowering of the sigmoid valves, pushed down by the reflux of the retrograde blood."

Gazette Medicale.

120.—CAUSE OF HARE-LIP.

By M. Bouisson.

M. Bouisson, of Montpelier, considers that all theories hitherto advanced are insufficient to explain the formation of labial fissures, as mechanical causes, the action of adhesions, imagination of the mother, primitive alteration of the germs, or arrest of development. These he rejects, and founds his explanation on the result of recent embryogenic studies in Germany.

It has been observed by Meckel that the intestinal tube is at first perfectly closed at its superior extremity, and that the aperture of the mouth is subsequently formed by absorption, acting both from within outwards, and without inwards, three separate openings have been observed separated by yet existing adhesions. Now M. Bouisson lays down this proposition "that the same organic action which presides over the formation of the buccal aperture, presides also over the formation of labial fissures." As to the latter, it has variable limits, sometimes acting to a very small extent, producing simple hare-lip, at other times so extensive as to produce either partial or entire destruction of the superior lip. One consideration advanced by the writer

favours this theory, viz., that the edges of the two fissures, both that of the mouth, and the abnormal one are organized in the same manner, are insensibly continuous by a rounded angle, and offer the same degree of colouration and sensibility. The reason why the upper lip is more frequently affected than the lower, is, that it is situated between the mouth and the nostrils, which are both the seats of an absorbent action.

Journal des Connaissance Medico-Chirurgicales.

121.—TINEA FAVOSA, A VEGETABLE PRODUCTION.

M. Dumas presented to the Academie des Sciences, a memoir written by M. Gruby, in which he announces, that by multiplied researches, he has detected that in tinea favosa, a vegetable production is constantly present under the cuticle; it is very minute and circular, when opened it is found to contain a multitude of minute granules. In other respects it is precisely similar to the vegetations found in saccharine urine. It is referable to the class of mycoderms. A commission is appointed to report on it. At a subsequent meeting a communication was received from Germany, claiming for M. Scheunlen, successor of M. Hufland of Berlin, the merit of detecting vegetation in the crust of tinea favosa, and which is published in *Les Archives de Muller.*

Gazette Medicale.

122.—FUNCTIONS OF THE SKIN.

By M. Ducros.

[M. Ducros has made a report of his experimental researches on this subject to the Academie des Sciences; a commission has been appointed to examine his report; awaiting the result of their investigations, we give a short *resume* of his experiments, which, if established, may have great influence over our treatment of diseases.]

1st. That covering the skin of animals with a coating of gum-lac kills them more or less rapidly, according to their relative strength, producing convulsions, which resemble those of epilepsy.

2d. That animals covered with gum-lac, and placed under the influence of an electric machine, perish twice as quickly.

3d. In order to see if metals, have physical characters opposite to those of resins, I placed thin metallic plates in contact with the skin of animals, after having cut off their hair. Death resulted with symptoms of weakness, in opposition to the phenomena produced by gum-lac.

4th. Placing a covering of gum-lac on the metalic plates hastened death.

5th. Having placed the animals, provided with their metalic coats, under the influence of an electric machine, he alternately produced phenomena of life and death, invigorating the animals, when charging them with electricity, and *vice versa.*

[From these experiments, M. Ducros was induced to try the use of metallic plates in the cure of disease. The following are his conclusions:]

1st. Neuralgia, tic doloreux, &c., which exist independently of all organic lesion, are sometimes cured in a few minutes.

2d. Tic, complicated with some lesion, may be calmed, but not cured by the metallic plates.

3d. Acute rheumatisms with fever, and congestion of the articular tissues are cured, provided there be only pain and congestion.

4th. The use of metallic plates coated with gum-lac, in acute inflammatory rheumatism is not beneficial, but aggravates the disease considerably.

5th. Metallic plates used for neuralgic affections when there is anæmia, and general weakness, increase the pain.

6th. In anæmic neuralgia, the greatest relief is obtained by resinous applications.

Gazette Medicale.

RETROSPECT.

"We ought not, like the spider, to spin a flimsy web wholly from our own materials, but, like the industrious bee, visit every store and cull the most useful and the best."

It becomes once more our duty to look back and see how far we have gone, and how much we have gained since we last took a retrospective view of the Medical Sciences. Let us not be ashamed of our own profession, although the rest of the world is on the advance in civilization; and although such rapid strides have been lately made in other Arts and Sciences. It is our business chiefly to attend to what is truly of practical utility to the Medical practitioner, yet we cannot avoid at the same time taking a general glance at the collateral Sciences; they form in fact part of the profession, and we cannot be excellent practitioners without at the same time having a knowledge of what is going on in Anatomy, Physiology, Chemistry, and more especially in Pathology. And the more we view the advances made in these branches of study, and more particularly in the latter, the more confident do we feel that our progress is comparatively as rapid as that which has been manifested in any other Art or Science whatever. Our course, however, is a silent one, and almost unknown to the non-medical world.

The medical man who is, generally speaking, decidedly one of the best informed men in the community, not only in matters connected with his own profession, but also in the affairs of the literary and scientific world at large, is able almost as well as any other man to understand the improvements which are taking place around him; for example, he is generally acquainted with the increased and increasing knowledge which Geology has diffused through society, and with the more popular laws connected with Astronomy: he also knows, and to his own comfort, feels the improvements which have been made in Mechanics. But the world at large is almost totally ignorant of the many beautiful and wonderful discoveries which are being made in our profession: our course, therefore, is a silent one, instructive to ourselves, and beneficial to the world. Take, for example, the practice of Auscultation; although this practice may be actually seen by the patient, what does he know of its value, and how little does he appreciate it! If the discovery had never been made he would have been as well satisfied with his family physician; and even now that he is reaping the advantage and sees the operation, he values it but little, not knowing, and not being able to appreciate its value.

This branch of practice seems likely to undergo some modification, at least in theory, since the opinions of Dr. Skoda, of Vienna, have been published. There is a very important and well known law in nature that sound passes more distinctly through solid than through light bodies; but it is necessary to remember that this is only the case so long as the sound is confined to the medium in which it is formed; for it passes with difficulty from one medium to another; and it is on this law that Dr. Skoda's modifications in the views

of auscultation are chiefly founded. For example, the least noise, as the ticking of a watch, is heard from one end of a table to the other when the ear is placed upon the table or at the edge of it, so that no space intervenes between the table and the ear—the sound is now conducted through one medium uninterruptedly; but if the ear be placed but half an inch from the table, no sound at all is heard, it is intercepted by the lighter medium of atmospheric air. And again, if a person be under water he can hear sound from a considerable distance, if that sound be produced in the water, but if produced in the atmosphere above him, he will hear no sound at all, and *vice versa*. All this applies with strictness to auscultation: for example, in pneumonia the voice is at one time distinct, and at an other time indistinct, while percussion shows that no particular change has taken place in the lungs themselves with respect to density—the change must exist in some other way; in some way which interrupts the passage of sound; and this is from the obstruction by fluid matter of the bronchial tubes of the hepatized portion of the lung. But this is not the generally received explanation; as it has been generally considered unimportant to the conducting of the vocal sounds, whether the air tubes are filled with air or not. In effusion resulting from pleurisy, the sounds of the voice diminish in intensity as the liquid increases, which ought not to be the case, if the sounds according to the usual explanation increase according to the density of different media. The common theory, therefore, requires the modification which is given by Dr. Skoda,—the sound of the voice has to pass from one medium of a light nature to one of a denser, and consequently becomes imperfect and almost totally interrupted. It must likewise suffer some degree of reflection as all sounds do when passing from a light to a dense medium. We know that sound only passes well through a hollow tube so long as that tube is hollow and without foreign bodies within it; introduce a piece of cork so as to plug up the cylinder in a speaking tube, which passes in many shops from one room to another, and the voice would be heard very indistinctly, if at all, and then only through the solid parietes of the tube. This shows that the sound of the voice is not conveyed through the *solid* parts of the trachea and lungs, as is generally supposed, but through the air in the hollow tubes of the trachea and bronchi: we know that the voice is heard more distinctly in those parts of the tracheal and bronchial tubes, which are cartilaginous, and as the bronchial tubes lose their cartilaginous structure the sounds become more indistinct. This is explained by what Dr. Skoda calls the law of *consonance*. For the perfection of the sound it seems necessary that the tubes should be perfectly hollow and without any foreign body in their cylinders, and at the same time dense in their structure, or enveloped by dense substance externally. When this is the case the voice is almost as loud in such situations as in the larynx itself, and must consequently impart a louder impression to the ear outside the chest. It seems, therefore, that the commonly received opinion on this subject is erroneous; it seems that the vocal sound is propagated not through the different structures which intervene between the larynx and the chest, but through the different hollow tubes, and of course it is louder when the walls of those tubes are dense than when light. (*Art.* 1.)*

In reviewing the opinions on the action of colchicum, we are struck with the variety of practice adopted by medical men, and with the different theories respecting its modus operandi. In arthritic and rheumatic affections, every one has found the advantage resulting from its use. In these affections many eminent modern authors have supposed that uric acid or urea is in excess in the blood, and that this, combined with the influence of vascular plethora, gastric, hepatic, and intestinal irritation, is a chief cause of

* The figures here and in the following pages refer to the articles in this volume, in which the substance of this Retrospective summary is more particularly elucidated.

gout: in short, that gout results from a disordered state of the fluids of the body, and chiefly of the blood. If uric acid in the blood be one chief cause of gout, we need not wonder at the efficacy of colchicum, since, according to Professor Chelius of Heidelberg, the quantity of uric acid excreted by the kidneys during its exhibition is nearly doubled in the course of twelve days. And to the same effects we may attribute the good which results from its use in most disorders where excessive excitement of the vascular and nervous systems prevails, such as cases of severe fever, the attacks of which may be materially shortened or mitigated by freeing the blood of many of its irritating ingredients. (2.)

But if colchicum is proved to have a decided effect in expelling useless and irritating ingredients from the blood, may we not with the same view have considerable reliance on benzoic acid, which, according to the observations of Dr. Alexander Ure, converts the *uric* into *hippuric* acid, the salts formed by which—as the hippurate of soda, potash and ammonia, are remarkably soluble, while those formed by uric acid are exactly the reverse. Thus hippurate of soda requires only two parts of water at 60° to dissolve it, while the corresponding uric salt, which constitutes as is well known the gouty concretions or chalk stones, is nearly as insoluble as uric acid, one part requiring 4000 parts of water to dissolve it. Hence we have in benzoic acid a very important remedy in gouty concretions especially, and likewise in many unhealthy conditions of the urine: and no doubt if the same remedy can thus convert those irritating ingredients in the blood into harmless ones, it will have a decidedly beneficial effect in other inflammatory states of the system, by preventing the formation of what would otherwise injure it; in the same way as colchicum has a good effect, by freeing those particles from the blood when formed in it. Benzoic acid, if given by itself, would irritate the fauces: it is better therefore to give it with phosphate or biborate of soda, since they increase its solubility in water. (12.)

The effects of secale cornutum have been so much discussed in different volumes and papers that it would seem unnecessary to bring forward any further information respecting it; but its effects have of late been better understood, and it has been found of value in other cases besides those relating to parturition. As it is a direct stimulant to the uterus producing a wonderful increase of muscular contraction during parturition, and probably a contraction of its tissues, even in the unimpregnated state, it seems likely to be of great use in many diseases of the womb, resulting from a want of power, as well as for the purpose of expelling foreign bodies such as polypi. We shall thus find it exceedingly useful in menorrhagia when not combined with inordinate action of the general system—in leucorrhœa when independent of inflammatory action—and also in chlorosis with amenorrhœa and in dysmenorrhœa; bearing in mind that it directly stimulates or excites the organ, and is therefore inadmissible when the womb is already in a state of excitement or inflammation. There is no doubt of its good effects in both menorrhagia and leucorrhœa when given with the preceding limitations, and Dr. Fyfe has also found it of value in cases of dysmenorrhœa, that troublesome affection which often baffles the effects of our most powerful remedies. In one case of this kind where the pain amounted to torture, it appeared almost magical in its effects. (3.) Mr. Moyle, of Helston, relates some interesting cases of the effects of this drug in expelling polypi from the uterus; one of them was about the size of two placentæ, the other of a large orange. (99.) It seems from M. Bonjeau's experiments, that secale possesses two properties, one called *toxic* by which the muscular fibre is stimulated to contract, and which quality is destroyed by a heat of 100 degrees, or by fermentation; and therefore this tincture is to be preferred when this toxic property is required. Secondly, it has a high hæmestatic property: i. e., it restrains hæmorrhage and is therefore valuable in many kinds of fluxes. This hæmestatic proper-

ty is not destroyed by heat like the toxic property. But this opinion of M. Bonjeau we should beg to disagree with in some respects, as we cannot conceive how he can separate its *toxic* from its hæmestatic quality in hæmorrhage, after parturition for example. The medicine stops the flooding not from its hæmestatic quality which M. Bonjeau seems to depend so much upon, but from its producing contraction of the muscular fibres of the womb, and thereby closing the mouths of the vessels. In other cases it is probable that its toxic and hæmestatic properties may be usefully separated. (55.)

Having already noticed Mr. Lane's opinions on the action of silver on the system, it will not be necessary again to say much on the subject. It is sufficient to say that Mr. Lane considers the *nitrate* of silver pernicious to the skin in this way—it is converted into a *chloride* by the free hydrochloric acid of the gastric juice, and then into an *oxide* in the skin by the action of light and the strong affinity for albumen. This oxide cannot permeate the capillaries, and thus becomes fixed in the skin. He therefore anticipates this process by giving the silver in the state of an *oxide* instead of the common preparation, the *nitrate*, and is thus enabled to persevere in this truly valuable remedy for any length of time without fear of discoloration. This is certainly to be desired; at the same time the cases requiring the administration of the nitrate of silver are generally of short duration, and most of those which Mr. Lane advances to prove the value of his remedy were not of sufficient continuance to prevent the nitrate being given for the same length of time that he gave the oxide. (5.)

Dr. C. H. B. Williams has brought forward, in electricity, a powerful remedy to stimulate the system when under the influence of opium. All other remedies will often fail in rousing the patient from the fatal sleep occasioned by a too large dose of opium. Dr. Williams has completely succeeded in this by passing electric shocks across the shoulder, by the electro-magnetic apparatus. It is often necessary to renew the shocks as often as the patient becomes drowsy. It has the great advantage of exciting the motions of respiration without exhausting the strength and overtaxing the voluntary movements of respiration, which is often done when the patient is perpetually teased and compelled to use exertion in order to be kept awake. (6.)

We referred in our last number to the circumstance of the crusts of the vaccine vesicle being made useful, (especially in hot climates where it is difficult to transmit the lymph in the usual way,) in the process of vaccination. This has been corroborated by the opinion of Dr. Baron and Mr. Coles, who collected a few crusts from the remains of the variolæ vaccinæ on the teats of a cow. These crusts were triturated with pure cold water, the margin and outer layers of each crust having been previously separated, and with the fluid six children were inoculated with three punctures in each arm; out of these thirty-six punctures only one took effect, and from this one, other children were inoculated with success, the vesicles being perfect in their form and character. This is an important circumstance in many respects; for although in this country the means of communication are so perfect and so rapid that the most sequestered spot can be supplied with fresh lymph; yet it is often difficult in the warmer regions of the earth to be supplied with this most valuable remedy. (7.)

There are few things more difficult than the management of young children in their several diseases; and this is especially the case when local applications are required to the mouth and fauces. We are accustomed to gargle these parts in the adult, but this cannot be done in the infant and child. M. Velpeau has therefore been successfully using powdered alum, which is to be blown through a quill upon the back of the throat in all cases where the fauces, the tonsil glands, and neighboring parts are inflamed and swollen. This is an old remedy long ago used in Paris, but we believe not so much so in

this country, at least not in the exact way recommended by Velpeau; and from a great number of cases which have lately came under our own observation, we can confidently recommend its extensive use as a most safe and truly efficacious remedy in all the cases above mentioned. The adult can apply the powdered alum to the parts with his finger or with any other instrument, or he may use a strong solution as a gargle; but it is in the child that the practitioner will find it of inestimable use. He must cut up two quills and introduce the end of one into the other in order to make a tube long enough to reach the back of the throat, he then puts a small quantity of powdered alum into the tube and blows it upon the tonsils and back of the fauces. It will be found to relieve the little patient in a very short time. Every practitioner has no doubt met with the most disagreeable affections of the fauces and tonsil glands following scarlet fever, where not only the glands and immediate neighborhood become implicated, but where the disease spreads into the nostrils and downwards into the œsephagus, and even into the larynx; constituting a very formidable and fatal disease. It is in these cases that the alum will act like a charm. It may be used twice a day. (8.) Alum has likewise been lately used with great success by Dr. Lynch, of Newcastle, in cases of hæmorrhage as a substitute in some measure for acetate of lead. But Dr. Lynch gives it in very large doses, from 15 to 45 grains three or four times a day, combined with a small quantity of sulphuric acid, and about 3j or 3iss. of sulphate of magnesia; although the alum alone will be found to have a laxative effect on the bowels. In the ordinary dose which never exceeds 20 grains, the good effects of this drug will not be felt; but in the large doses of Dr. Lynch (which he thinks perfectly safe) it will be found even more efficacious than acetate of lead, and a much safer remedy. (9.)

The good effects of oxide of zinc in cases of convulsion resembling epilepsy are brought forward in an interesting case by Dr. Hennis Green. He gives it in two grain doses twice a-day: the doses to be increased two grains every day. In the case which Dr. Green relates twenty-four grains daily were at last given with great success. The fits which occurred frequently before this, now disappeared, and did not return till the remedy was discontinued; on resuming the medicine the fits again disappeared as at first. (10.) M. Janson has for some time been in the habit of giving the hydrocyanate of iron in cases of epilepsy with considerable success; and especially in cases which he calls *nervous* epilepsy, as distinguished from *organic* epilepsy. He gives it in doses of half a grain night and morning, gradually increased to ten grains for a dose. It is necessary to persevere in it for some time. (44.)

The ointment of veratria has been strongly recommended by Dr. Bushnan in cases of dysmenorrhœa, which he says may frequently be owing to perversion of the nervous action of the lower portion of the spinal marrow; and if this ointment can thus alter a perversion of the action of the lower portion, why may it not do the same with the upper portion, and thus relieve many spasmodic affections of the larynx and appendages. Dr. Tunstall brings forward a case where this effect resulted.—In a case where the sense of suffocation was extreme, and respiration exceedingly oppressive and violent, he prescribed a scruple of veratria to one ounce of simple cerate, and directed that a small portion should be well rubbed on each side of the cervical vertebræ twice a day. Although the attacks were previously rather frequent, she had not a single attack of consequence during its use.

This remedy may therefore, on further trial prove valuable in many other diseases of undue nervous excitability, or perversion of nervous action. (13.)

The tincture of Aconite has been used with success by Dr. Pereira, in almost all cases of neuralgia and chronic rheumatism where no particular fever or inflammatory disorder is present. Mr. Curtis gives some good cases to prove the value of this practice: from 3j. to 3ij. of the tincture are to be rubbed into the part affected with pain, taking care that the fingers are not

used for this purpose. In cases of painful affections of the nerves in any part, as about the hip, the scalp, the face, forehead, &c., this application will be found valuable. The sensation of cold, heat, and numbness is generally produced. (14.)

Many of our old remedies seem to be increasing in value from the way and the doses in which they are given; look, for example, to the large doses of alum, zinc, silver, &c., which are given. The same may be said with respect to the nitrate of potash, which when given in very large doses by M. M. Gendrin and Martin Solon, has been found very efficacious in acute articular rheumatism. The mean quantity taken by each patient daily, was an ounce and two scruples, and twelve ounces during the whole attack. The mean duration of the disease, from the commencement of the treatment, was eight days, and rather more than twelve from the period of invasion. But this is perhaps no better success than we meet with from calomel and opium,—and from colchicum; especially when the latter remedy is given according to the mode recommended by Mr. Wigan, of Brighton, (see Retrospect, No. I, Art. 4,) which, since the publication of that article, we have tried extensively and with surprising effect—and we have no hesitation in stating that Mr. Wigan's plan will be found one of the most satisfactory and rapid modes of cure in these cases with which the profession has hitherto been made acquainted. (16.) In this affection, M. Malherbe has used with success the cyanide of potassium, in the form of compresses over all the joints affected, moistened with a solution of this substance, (ten grains to the ounce of distilled water). Relief was obtained in forty-eight hours in one case which he adduces. M. Trousseau had previously used the same application with success, in severe headache, which we presume must have been neuralgic. (88).

The old method of treating hæmoptysis and other hæmorrhages of a similar nature, by bleeding and other such modes of depletion, seems now to be giving way to nauseating doses of tartarized antimony and ipecacuanha, which produce nearly the same effects on the system as bloodletting—they produce a similar state of nausea, diminish in the same way the *vis a tergo*, and likewise by producing syncope, allow nature to close the orifices of the bleeding vessels by that coagulum, which is formed with so much more rapidity in a state of syncope and depression, than when the system is vigorous or under a state of stimulation. This is a curious fact, and will no doubt be found useful throughout the treatment of hæmorrhages of all kinds; and in future, instead of stimulation, which we have hitherto almost implicitly relied upon in hæmorrhages during pregnancy, and in the puerperal state, we shall be led more and more to trust to syncope, cooling nutritious diet, and the effectual use of the plug, &c.—avoiding the too common practice of pouring brandy and wine down the throats of our patients. (17.)

Perhaps few diseases have been treated with a greater variety of remedies than has chorea, owing to the different views of its pathology, which have been entertained by different practitioners. Purgatives, tonics, and iron in particular, in one form or another, seem to be chiefly depended upon. Mr. Wardleworth of Rochdale, has found the greatest good from purgatives composed of one-twelfth of a grain of elaterium, three grains of jalap, and two grains of ginger, given till free purging is produced, and regulated, of course, according to the age of the patient, the above being the strength for an adult The use of the ammoniated tartrate of iron from three to five grains in any suitable vehicle, three times a-day may then be given with admirable success. (19.) Dr. Hennis Green generally employs one of the three following remedies inthe Children's Hospital: first, the sulphureous baths,; second, cold baths; third, the oxide of zinc. The sulphureous baths are composed by the addition of four ounces of the sulphuret of potass to a common bath; the patient to be kept in the bath from half an hour to an hour and a half, and it may be repeated once or twice daily. From fifteen to twenty baths

were generally sufficient to remove the disease. M. Baudelocque, of Paris, uses this remedy with great success. (36.)

The pleasor and plessimeter as used by Dr. Burne, will be found an improvement. Instead of using the three fingers supported by the thumb to tap or percuss the chest, as practised by Laennec, he applies a piece of sole leather more than one inch in diameter and rounded at the edges, to the surface of the chest, and with another piece of leather attached in a particular way to the head of a small hammer, he strikes the piece placed on the chest, and thus produces a more regular sound than with the fingers. The less the force with which the degree of resonance can be applied, the better. (20.)

Dr. Bullock, of Uxbridge, has published an interesting case of tetanus cured by tobacco injections. In this disease almost every remedy has been long since tried with comparatively little success. In this case of Dr. Bullock's, the tobacco glyster was repeated every six hours, composed of half a drachm of tobacco leaves, to nine ounces of boiling water, and macerated for a quarter of an hour. The first three injections had no effect in producing the usual prostration; but the following times, this was the case, for at least two hours. In three days the disease began to give way, and eventually the patient recovered, although not without a severe relapse, in which the tobacco was applied every eight hours with the former success. While the tobacco glysters were thus given with fearful rapidity, the nervous system was fortified by tonics and stimulants. The strongest broths and jellies were at the same time given, as much and as often as possible. (21.) It seems that both tobacco and opium, when administered in the form of an injection, take even a more powerful effect than when taken into the stomach. Dupuytren explains this fact with respect to opium, by supposing that in the stomach its effects become modified by the process of digestion, whereas, when administered by the rectum it becomes absorbed, unaltered, into the system. This is well illustrated in a case of nervous excitement, published by Dr. Maddock in which the opium injection was used with remarkably good effects: and no doubt, in many cases of nervous excitement, produced either by disease or by operations, this remedy would be found valuable. (23.)

One of the simplest and most efficacious remedies lately adopted is that by Dr. Wilson, in cases of colica pictonum. Instead of having recourse to the string of remedies usually adopted in these cases in order to procure an evacuation of the bowels, it will be well in future, where there is the opportunity, to put the patient into a warm bath, and when he has been in it for some time, cause him to introduce the enema pipe, and give himself a good injection with the water of the bath till he feels a sense of fullness of the abdomen: or the practitioner himself may perform the operation if the patient be not in a fit state to do it himself. In the case related by Dr. Wilson, the bowels were opened before he left the bath, and several times afterwards. Castor oil, and a small dose of opium were given the next day, and the third day the bath and injections were repeated as at first; after this the patient continued easy and quite open in his bowels with sulphate of magnesia and the carbonate combined. (24.)

The effects of tartarized antimony in subduing inflammation of the lungs are well known to almost every practitioner; but we think the way in which this is accomplished is not so well known as it ought to be. Dr. Thomas Davis states that it always acts best when it produces no effect except upon the inflammation itself, i. e. when neither vomiting, purging, nor general depression are produced. The first dose may produce all these effects; but the second and third doses may be *tolerated*, and it is during this *tolerance* of the drug that its beneficial effects are chiefly perceived: if the vomiting and purging be excessive, it is well to combine a small dose of laudanum. Dr. Thomas Davis first bleeds freely in pneumonia; he then begins with one third of a grain of tartarized antimony in a little water, with a few drops of

laudanum or syrup of poppies: he repeats this dose every hour six times; he then doubles the dose for the next two hours; and goes on thus, adding one third of a grain every two hours, until he reaches two grains every hour. He has not exceeded this last dose, and has occasionally continued it for many days without injurious effects. Whatever be the modus operandi of this medicine there can be no doubt that this treatment is both judicious and safe.

Dr. Watson, who brings this mode of treatment more into notice in his excellent lectures now being published in the Medical Gazette, recommends that when the inflammation has reached the second stage, that of solidification, mercury should be depended upon more than either bleeding or tartarized antimony. The system should be slightly affected as speedily as possible, either in the usual way by blue pill, or calomel, given at intervals of a few hours—or in the small and repeated doses of the sixteenth of a grain every quarter of an hour; by which latter plan a patient will easily be affected by four or six grains of calomel. (25.)

Dr. Marshall Hall states that the seat of disease in the spinal marrow accompanied with paraphlegia, is generally *at or above* the junction of the particular nerves which are implicated: and as these nerves do not pass obliquely but directly downwards at first, it follows that the practitioner may often mistake the seat of disease, and suppose that it is much lower than it generally is; the consequence is that he generally applies his setons, issues, leeches, &c., *below* the seat of disease: and it is Dr. Hall's opinion that it is best to apply our remedies directly adjoining the seat of disease, which is generally a little higher than is usually suspected. And he moreover recommends several setons of large size, instead of one only—he says to be efficacious, they should be three-fourths of an inch in breadth, and two inches long, and inserted on a level with, or above the supposed seat of disease; and they should be four or six in number, two or three being inserted on each side of the spine. (26.)

The experiments of Dr. Edwards of Paris, respecting asphyxia, are already known to many members, though not probably all of the profession: and we have no doubt that it will require strong facts to induce the older practitioners to alter their mode of practice in resuscitating still-born infants and adults; but such facts seem to exist. Dr. Edwards has proved that asphyxia takes place much sooner in a warm than a cool medium. He has found that new born mammiferous animals die most slowly in water at about 60° which is ordinary cold water: and that they die more rapidly as the water approaches blood heat. He advises that persons in a state of asphyxia should be exposed to the cool air, and that the application of heat should be avoided. Mr. Snow very ingeniously explains this circumstance by supposing that the deleterious effects of heat in suspended respiration depend on "its stimulating the capillary circulation, and thus promoting the de-oxygenation of the blood" in a more rapid manner than would be the case when the surface was cool; in other words, when the surface is cool the capillary circulation is less energetic than usual, and consequently there is a preservation in some degree, of the oxygen of the system. When we consider the great number of still-born children, some writers affirming that one child in twenty is so, it is of the greatest consequence that a safe mode of practice be adopted in these cases, and we are strongly disposed to think, that hitherto, the practice of applying heat, and especially in the form of hot baths, is pernicious; for we must remember that the hot bath has not only the bad effects of heating the surface, but prevents that surface from being acted upon by the oxygen of the atmosphere, which it will be more or less when exposed freely to its influence. (27.) Dr. Scholer of Berlin, relates two successful cases in which the apparently still-born children were immersed in cold water, the temperature of which, however, is not named in the English journal, but we suppose the experiment would be founded on the facts related by

Dr. Edwards of Paris, and therefore, we take it, the temperature would be about 60°. (102.) Dr. Marshall Hall does not agree in this practice. Although he approves of the *sudden* application of cold to the warm surface as an effectual means of exciting respiration, he does not recommend the continued application of it. On the contrary, he says "That it is not the mere application of cold, but the *sudden* application of *cold* to a *warm* surface, which is the effectual means of exciting respiration. It is the *sudden alternation*. To apply cold to a cold surface would only be to sink the general powers of life. The infant should be kept warm; the warm bath may be required; and then cold water must be applied, in moderate quantity, but with *force*." He recommends what must strike every one as being a truly practical method of accomplishing resuscitation, namely, by exciting respiration by stimulating the excitors of that function, the *trifacial*, the *pneumogastric*, and the *spinal* nerves—the trifacial by *forcibly* blowing or dashing cold water in the face, stimulating the nostrils by ammonia, snuff, pepper, or the point of a needle, &c.; the spinal nerves by *forcibly* dashing cold water on the chest, thighs, tickling the sides, soles of the feet, and verge of the anus. (103.) M. Baudelocque states that since he has followed the opinions of Smellie, Scoret, Chaussier, &c., with respect to tying the naval string, he has not lost a single case from asphyxia. This opinion is to delay tying it for some time, when asphyxia is present; as the blood circulates for some time in the umbilical vein when it has ceased to be perceived in the arteries.

There is a curious case published by M. Breschet, of immediate contraction of the fingers after a wound, and puncture of the nerve by the lancet. In this case electricity was found to relax the muscles, instead of increasing their action. A needle was passed into the extensor muscles near the elbow, and another into the back of the wrist: twenty-five or thirty pairs of plates were employed, but the contraction seemed to be increased by this mode—the needles were next placed so as to act upon the flexors of the fingers, and to the surprise of all present, they were gradually extended under the influence of the galvanic shocks; the thumb alone remained flexed. Galvanism was continued for several days, and with the ultimate recovery of the fingers. (33.)

Another remarkable case is related in one of the foreign journals, in which Dr. Carraro punctured the heart in a case of apparent death, with the hope of exciting it to reaction. The experiment was performed on a cat. It was kept under water till apparently quite dead, and after remaining in this state three quarters of an hour, without the least signs of reanimation, a needle was pushed through the heart: in five minutes it was observed to move, which shewed the heart had recommenced its action; it rapidly recovered. Dr. Carraro recommends this as a safe operation and trusts that it may be tried in cases of asphyxia. But we should certainly hesitate before we adopt such an experiment in the human subject. (34.)

Acute hydrocephalus is often so intractable a disease that we should be glad to find out some more potent remedy than has hitherto been discovered. Dr. Rosser gives us a case where he employed large doses of the iodide of potassium. The child lay quite insensible, pupils fixed and dilated, complete paralysis of one side, face flushed, body bathed in perspiration, and all the other symptoms denoting the last stage of the disease. One drachm of the iodide of potassium was dissolved in half an ounce of water, thirty drops of this solution were given every hour in a little water; one drachm of the iodide was at last given in twenty-four hours, and then the good effects appeared: in short, the child rapidly recovered without any other bad effects than a crop of boils. (35.) In the administration of iodine, Dr. Mojsisovitz of Vienna, throws out some useful hints. Feculant matters decompose the preparations of iodine, giving rise to ioduret of starch in the stools of those who eat bread, potatoes, rice, gruel, and vegetables, while taking this medi-

cine. It is necessary, therefore, to interdict the use of all substances containing fecula while iodine is being given. This may account for the fact of such large loses of this medicine being occasionally given without either bad or good effects. Dr. M. disapproves of the tincture of iodine, which he says is more likely to cause a wasting of the testicles and mammæ, hœmoptysis, &c., than any of its salts. He prefers the hydriodate of potass, or the proto and deuto iodurets of mercury. He gives about fifteen grains of the hydriodate daily, which we think might be considerably increased without danger; his ointment for tumours is composed of two parts of proto-ioduret of mercury and twenty-four of lard. (40.)

M. James states that the good effects of electricity in cases of neuralgia are often lost from the improper way in which the remedy is applied. In the first place the needle ought to be of gold or platina, which are not readily oxidized; it should be pushed directly down to the affected nerve without being rotated as is often done in introducing a needle into the flesh; it should be pushed down so as to be in contact if possible with the nerve, although it is not necessary to pierce it: one needle should be introduced at the origin of the nerve, and another at the termination or at the part most affected with pain; a current of electricity is then made to pass from one end of the nerve to the other, between the two needles, the positive pole communicating with the needles at the origin, and the negative pole with the needle at the termination of the nerve: a pile of five or six plates is generally necessary for the first sitting. M. Majendie is the great advocate for this mode of treating neuralgia. (43.)

The important observations of Mr. Ferrall of Dublin, on certain structures of the orbit, besides those of Mr. Dalrymple in his work on "The Anatomy of the Human Eye," and those of M. Bonnet and Mr. Bennett Lucas, place in a new light many of the muscular actions and diseases in the orbit. Mr. Ferrall's attention was first directed to this subject by meeting with a case which bore some resemblance to periostitis, and yet there was no pain whatever on pressing that part; the eye at the same time seemed perfectly healthy. On further examination he discovered a distinct sheath around the globe, which protected it from the unnecessary action of the muscles, and through which there were small openings for the tendons to pass, and which openings were thus formed into so many pulleys, which enabled the muscles and tendons to act without the least pressure on the globe. This structure had indeed been previously described both by Mr. Dalrymple and M. Bonnet, as well as in some measure by Mr. Bennet Lucas. Mr. Ferrall names it the *tunica vaginalis oculi*. The muscles are quite on the outside of it, and only send their tendons through the six small openings, which are found about half an inch posterior to its anterior margin. Its uses are admirable. It completely prevents all pressure of the muscles on the globe by affording beautiful pulleys, through which they can work so that the pressure will be chiefly on the pulleys: and if this tunic were not present, what would be the result when all the recti muscles act together: sudden pressure must necessarily be caused; and the eye would likewise be retracted, for it is difficult to imagine how the recti could rotate the eye without so in some measure retracting it. The existence of this tunic will likewise explain those diseases which previously could not be accounted for satisfactorily, such as rheumatic inflammation, when no evidence of disease of the eye itself can be detected, and when many of the symptoms of periostitis are absent. (58.)

The subject of club-foot has in general been so well entered into, that it is hardly necessary to dwell much upon it: nevertheless, the views and practice of Mr. Braid, of Manchester, call for some notice. His opinions, which differ in many respects from those commonly entertained have been for some time before the public. When the tendon has been divided, and the two ends separated from each other, he has ascertained that these two ends re-

unites by fresh tendon, or a substance very like it; and by this means a tendon may be elongated almost to any reasonable extent. He differs from most authors when he states that the best way is to divide all or most of the tendons which are implicted in the contraction; and in the course of four or five days the foot may be brought into its natural position and direction, without the trouble and pain of continuing the extension for the great length of time which often follows the simple division of the tendo Achillis. It will generally be found in a case of pure talipes equinus, with rigid contraction, that not only are the tendo Achillis and plantaris contracted, but also the flexor longus pollicis pedis, and the flexor longus communis, tibialis posticus, and peroneus longus and brevis. Mr. Braid would therefore divide the whole of them at the same operation, or at least those which he found contracted: and his extensive experience warrants him in strongly recommending this mode of proceeding instead of dividing the tendo Achillis alone, and trusting to future long extension to complete the reinstation of the foot. It seems but reasonable that if other tendons are found proportionably contracted they should be divided as well as the tendo Achillis, especially as the operation is so very simple, and fresh tendon will almost invariably be found to unite the dissevered portions. This, indeed, would enable us to make short work of our operation and astonish our patient, but we should question the propriety of proceeding thus rapidly and almost violently in all cases of the kind. No doubt in many cases Mr. Braid's practice is admirable, for it must be remembered that the antagonist muscles are in a weak and almost paralysed state, and can therefore offer but little resistance when the lately extended muscles are again allowed to have play: the consequence will be that the club-foot will either not be completely cured, or the cure will be very tedious. After thus dividing all the contracted tendons, extension is to be commenced in two days, and in four or five days the deformity will generally be cured. In a case of varus Mr. Bird divides the tendo Achillis, tibialis anticus, tibialis posticus, flexor longus pollicis pedis, and flexor longus communis, and abductor pollicis, if required; and if there should be much contraction of the sole of the foot, he even divides the plantar fascia as well as the short flexors. But there may be other kinds of talipes, which are owing, not so much to contraction of certain muscles, but to paralysis or weakness of the antagonist muscles; and in these cases Mr. Braid seems to be the first who has excised a portion of such paralysed or weak tendons for the sake of uniting them again, and thus making them shorter. This has completely succeeded in many cases. It is necessary, however, not to cut out too much, which would produce rigid contraction, nor too little to excite the tone and contractility necessary. (59.)

There are cases of disease of the eye where cataract is present, but in which the usual operations for that disease would be unavailing, such as in those cases where the vitreous humour is so softened and melted down that the lens will not retain its situation when depressed, neither would it be prudent to extract it, as the vitreous humour would follow, neither can the lens be broken up. In these cases, Mr. Morgan recommends tapping the globe through the sclerotica to diminish the vitreous humour so as to allow the lens to fall below the axis of vision. He does this by passing a large sized needle, with cutting sides, through the sclerotica about three lines distant from its junction with the cornea a little below its transverse diameter: he then draws the cutting edge vertically downwards, making an incision parallel with the corneal line of attachment of the sclerotica, and of about a quarter of an inch in length; if the vitreous humour do not escape, gentle pressure may be made on the globe, till sufficient escapes to allow the lens to sink below the axis of vision. (60.)

The elastic ligature made of caoutchouc, as recommended by Mr. Nunneley, will be found in many cases an important improvement; especially

when the parts are required to be kept in certain positions without exciting irritation from undue pressure. Since our last notice of this subject in our former number, some further valuable observations and experiments have been made by that gentleman. A caoutchouc thread, if used without previous preparation, could not be depended upon as its elasticity varies so considerably,—but if previously heated in water at no less than 90° Fahr., it contracts to a certain degree, to one-sixth or more or less of its original length according to its thickness, and always maintains this degree of contraction afterwards, unless stretched; and when stretched, as by the sides of a wound, it will indeed give way so as to relieve all unnecessary and hurtful tension, but will always endeavour to regain its original dimensions; so that nothing can be more adapted to accommodate nature in her varied operations: if, for example, a stump is rendered uncomfortable and inflamed from the tightness of the plasters or bandages, or ligatures, it would be great relief to gently remedy this tension, by partially slacking the plasters, &c.' All this is at once accomplished by this elastic ligature, it is sufficiently firm to keep the parts in apposition, and at the same time gives way to the varied degrees of tension which wounds will occasionally be subject to. A ligature one-sixteenth of an inch in diameter, nine feet long, will contract to eighteen inches in a temperature of 90° Fahrenheit, and can be forcibly stretched to eleven feet; but on the extending force being removed, it will again resume the length of eighteen inches. By understanding this, the surgeon can always have a good idea how tight to draw his ligature; "thus, if he expect much swelling, he should only draw it so tight as in the first instance to merely maintain the parts in apposition; if, on the contrary, there already be much swelling, he should draw it rather tighter, in anticipation of the subsidence of the tumefaction." But so elastic is the contracted thread, that the tension is more likely to be too great than too little. This elastic thread may also be found very useful in dressing wounds where adhesive plaster cannot be retained: the parts can be examined without disturbing the elastic bandages, and fomentations and other applications can also be used without injury or displacement. (63.) M. Rigal, of Gaillac, has been accustomed for the last two years to use bandages made by strips of Indian rubber, in the place of common ligatures and bandages. He speaks very highly of their effect in those cases where it is necessary to keep the parts in apposition, and yet where these parts are liable to varied distention and relaxation; in which case it will be seen at once how extremely valuable this kind of application will be. He particularly mentions their utility in cases of hare-lip, and the operation for the restitution of lost parts. The elastic bandage will also be exceedingly valuable in maintaining oblique fractures of the lower extremities in perfect apposition by accommodating themselves to the varied muscular effects. (64.) While referring to ligatures and bandages, we may mention the improvement in the making of adhesive plaster, which is so ingeniously contrived by Mr. Liston, viz., the spreading of a solution of isinglass on membrane, consisting of the peritoneal covering of the cæcum of the ox, rubbed down and carefully polished in the manner in which the common goldbeater's skin is prepared. It has been discovered that isinglass forms a much more adhesive application than anything which we have hitherto used. It was formerly spread on oil silk, and may be so still for ordinary purposes, but in many cases it is a great advantage to be able to see the parts without removing the plasters; and in such cases the membranous plaster will be found invaluable, and especially when as little irritating as goldbeater's skin itself. Directions for the preparation of this plaster will be found in article 79.

The catoptrical exploration of the lens unfolds to us a new mode of examining the eye. "If a lighted candle be placed before a sound eye, three reflected images are seen, situated one behind the other. The anterior and posterior are erect, the middle one is inverted. The anterior is the brightest

and most distinct, the posterior the least so. The middle one is the smallest. If the eyeball be moved the two erect images follow it; but the inverted image moves in the opposite direction. The anterior is produced by the cornea, the posterior by the anterior surface of the lens; and the middle or inverted image is from the posterior surface of the lens." We thus see how valuable this may be made in examining the eye in incipient cataract and other doubtful cases. If the three images can be seen as above described, we may be sure the lens is transparent and the impaired vision must be owing to some other affection than cataract; for cataract obliterates the inverted image and renders the deep erect one very indistinct. "Glaucoma only when very much advanced obliterates the inverted image, while in all its stages it renders the deep erect one more evident than in the healthy eye." In incipient cataract the inverted image is indistinct, and at last totally vanishes. This examination of the eye will be found of the most essential consequence in many obscure and incipient cases of opthalmic surgery. (64.)

The French surgeons seem to have acquired greater skill than even the English, in treating syphilitic cases. From the great pains taken by Ricord and others they would seem at present to be taking the lead in the investigations on this subject. In treating a very recent case of gonorrhœa, and previous to any redness around the orifice or pain in making water, Mr. Acton states that the disease may frequently be cut short by the following method. In addition to the more common means, twelve injections of a solution of nitrate of silver, two grains to ℥viij, are to be used in the course of forty-eight hours, at regular intervals. These injections are then to be discontinued and cubebs and copaiba are to be given. These latter medicines according to Velpeau are best combined in the proportion of one part of copaiba to two of cubebs, and with this Mr. Liston agrees in his last edition of the Elements of Surgery. Velpeau however seems to recommend a much stronger solution of the nitrate of silver than Ricord, stating that one grain to the ounce is about the proper strength: and this he uses about three times a day; for about three days; if persevered in longer, it may produce a fresh irritation in the urethra. He recommends also that the canal be kept constantly compressed by means of small graduated compresses, dipped in starch, applied from the bulb to the fossa navicularis, and retained by means of a bandage. It seems to us however more prudent to adopt the strength of the solution recommended by Ricord and Acton. (65.)

In the treatment of strangulated hernia various remedies have been used to produce that complete prostration of energy which is often so necessary to accomplish its reduction: but the preparations of opium have generally been omitted; bleeding, the warm bath, tobacco, tartarized antimony, &c. have generally been preferred. Dr. Bell and Dr. Davis have however brought some interesting cases before us which show the value of opium, either in the form of morphia or laudanum, in accomplishing the wished for prostration. Dr. Bell gave half a grain of morphia, and repeated it in half an hour, with the desired effect. Dr. Davis gave a teaspoonful of laudanum, and repeated it in two hours; this second dose was followed by complete prostration of the muscular system, dilatation of the pupil, and the easy reduction of the hernia. It seems that Dr. John Conolly suggested the remedy to Dr. Davis at the anniversary meeting at Oxford. (66.)

Irrigation or the operation of dropping or dribbling water on different parts of the body is well known. It is generally done by making a syphon of worsted or any other porous material, one end of which is placed in the liquid, and from the other end the water drops slowly on the limb or part to be irrigated. Dr. Macartney has invented a simple irrigating machine, by means of which this is accomplished with more comfort and cleanliness than has hitherto been effected. The limb is placed in a box made of wire, something like a fracture box. "The water is carried in a flat tube, which at one end

is connected with the reservoir, and the other end projects through a slit in the upper edge of the box. The tube contains a strip of coarse woollen cloth, which is broad at one end and pointed at the other. The broad end is received by the vessel that contains the fluid, and the pointed end either rests upon the dressings of the affected part, or is suspended immediately over them. The water is taken up by the strip of cloth and carried along it on the principle of capillary attraction, or in the manner of a syphon." The water is carried off through a concave bottom perforated with holes, from which a tube projects over the edge of the bed. (67.)

In the radical cure of hydrocele, Velpeau prefers the tincture of iodine as an injection, to all others. It has the following advantages: "a small quantity only is required, half an ounce to an ounce; it produces no ill consequences even if allowed to remain in the sac; it does not cause any serious injury if injected into the cellular tissues; and lastly, it is almost uniformly successful." The strength of the liquid is two or three drachms of the tincture to an ounce of water, and he has even used the pure tincture without injury. (68.)

In what the French call "tumeurs blanches," or white swellings, in which they improperly often comprehend scrofulous enlargement of the articular extremities of the bones, ulceration of cartilage, and disease of synovial membrane, M. Jobert has found the greatest benefit from an ointment composed of thirty parts of lard to four of nitrate of silver. If this be not strong enough, eight or twelve parts of the salt to thirty parts of lard may be used. This ointment is rubbed on the parts affected. (69.)

Burns have been treated most effectually, especially when superficial, by covering the parts with a lather of soap; the lather to be repeated several times as soon as the previous coating has been dried. This plan seems to protect the parts from atmospheric influence almost as well as most others which have been devised, and much more speedily and simply, since a shaving brush and box of soap may always be procured immediately. Vesication in superficial burns is prevented by the immediate application, and the suffering of the patient is relieved considerably in both superficial and deep injuries. We believe Dr. Williamson of Leith, has the credit of first using this remedy. (70.)

In our examination of the ear we have frequently the greatest difficulty in obtaining a minute inspection of the whole of the membrana tympani. Mr. Curtis has introduced into this country the speculum used by Gruber, which differs from that of Kramer and Itard, in having the handles so made that they can be detached from the shield, which can be left in the meatus by itself. By this means the surgeon can make use of both his hands, and the speculum is a sure protection to the parts while the operator is manipulating. By the assistance of Gruber's lamp, which has a strong reflecting lens attached, by which the light is thrown powerfully into the passage and upon the membrana tympani, the condition of the parts can be more accurately ascertained than by any other means hitherto adopted. Mr. Curtis also brings before the profession a very excellent composition for curing discharges from the ear, called lapis divinus, composed as follows: "Take of sulphate of copper, nitrate of potass and alum, of each sixteen parts, powder them separately, and then mix them well together: fuse them in a glass vessel in a sand bath, and add one part of powdered camphor; break the mass into pieces when cold." Mr. Curtis uses a solution, consisting of two drachms of this lapis divinus in one ounce of distilled water; a drachm of the solution being added to six ounces of rose or distilled water constitutes the injections, which he generally uses twice a-day. It is well to begin with a weak solution, and gradually increase the strength according to the effect. Thus used, it acts as a mild stimulant and astringent. (72.)

One reason why the common immovable apparatus applied to the fractured legs or thighs of children is almost useless, is, that it soon becomes quite

saturated with the urine, and therefore is incapable of maintaining the fractured parts in apposition. This is well prevented by the application of oil varnish. The starch bandage is applied first, and when completely dry, a layer of the varnish is to be applied with a brush; the limb is then to be exposed to the air in warm weather, or to the fire in winter: another layer of varnish is applied in two hours, and this will completely protect the parts from urine for almost any length of time. The apparatus can easily be removed by placing the child in a warm bath. (75.)

Subcutaneous operations are not only useful in curing the different deformities of the foot, &c., but will now be especially attractive to those individuals who are possessed of crooked noses. By passing the bistoury under the skin at a certain distance from the union of the cartilage and bone, it is carried to the part where those two portions are united; the cartilaginous portion is then separated from the bone, the nostrils are stuffed with lint, the parts are brought to a more regular form, and soon unite. (80.) M. Petrequin has also found subcutaneous myotomy very useful in some cases of cutropion, which he has occasionally found produced by a permanent contraction of the orbicularis muscle. (84.)

One of the most useful contrivances which has lately been recommended to us is the improvement of the common pessary, or rather a substitution for that disagreeable and painful instrument. Mr. Clay, of Manchester, has invented a support for the womb, which we think will be likely in time to supersede the old round or oval pessary. The use of the common wooden or Indian rubber pessary, and indeed of all such large bodies, must necessarily keep the vagina constantly in a state of distension; and consequently there will be but little likelihood for the vagina, at least, to assist in permanently supporting the womb when the pessary is withdrawn: and moreover the common pessary is an exceedingly inconvenient instrument, and one which delicate females are very reluctant to make use of, independent of their inability to manage it. Mr. Clay's instrument consists of a coil of steel wire shaped something like a corkscrew, or like the circular springs which are used in spring cushions. On the end which is introduced up the vagina to support the womb, is fixed a caoutchouc ring a little larger in diameter than the corkscrew spring, and sufficiently large to form a good support for the parts: on the other end, which is outside of the body, there is a small shield of wood or ivory, which by means of bandages attached to a belt round the body can be securely fixed to the vaginal entrance. By means of this ingenious contrivance, we think the womb will be likely to be more comfortably supported than by any kind of instrument yet invented. The vagina will not be kept in a state of distension, and even this may assist in some measure to support the parts. The caoutchouc ring which is next the womb will admit the passage of the different discharges from the womb; and the elasticity of the middle portion will be well adapted to the varied degrees of pressure to which it will be subjected. There have been other instruments invented for supporting the womb in these cases, but which we have not seen noticed in any of the journals. One of these is made by the Messrs. Eagland of London and Leeds. It consists of a circular strap or spring which encircles the body like a truss, from this another strap is brought from behind, over the perineum, where there is a spring and pad, so as to press regularly on the perineum, and is fixed by two straps in front. This instrument is made in a different way by Mr. Elam, of Huddersfield: the pad which presses on the perineum is connected to the posterior and anterior pelvic circular strap, by straps containing springs, by means of which the perineal pad is kept in its situation. By this means of making continued pressure on the perineum the external aperture is considerably diminished: in this way the womb is prevented from prolapsing: but it is evident that this is only adapted to cases where the neck of the womb completely protrudes, whereas Mr. Clay's instrument may be useful in almost every stage of the descent. (98.)

Dr. Lawrie, of the Glasgow Infirmary, relates an interesting case in which procidentia uteri was cured by the actual cautery in the following way. 'The uterus being returned, Weiss's three-pronged speculum was introduced and dilated, and the actual cautery freely applied to both lateral surfaces of the vagina, nearly as high as the uterus." This for a time completely cured the affection. It returned sometime afterwards, and was again treated in the same way with the recumbent posture for a considerable time. It has not since returned. (105.)

Since the publication of Mr. Toogood's case of dropsy of the amnion, it behoves us to be more cautious how we proceed in supposed cases of dropsy during pregnancy. Some writers on midwifery do not seem to be aware of the fact that dropsy of the amnion may so resemble ascites as to mislead even an experienced practitioner: but when Mr. Toogood's case is pointed out it will no doubt induce great caution in performing the operation of tapping. This patient was suffering from general dropsy and dyspnœa, to such a degree that tapping seemed absolutely necessary; "the abdomen was distended to the utmost: the fluctuation could not only be distinctly felt, but absolutely seen, the parietes of the abdomen had become so thin." Pregnancy having been ascertained, Mr. Toogood hesitated to tap her, and preferred bringing on premature labour, which he did by puncturing the membranes with a male catheter; two fœtuses were expelled in due time with an immense quantity of water, ten or twelve quarts coming away with the second child. After this the abdomen completely subsided. (101.) Mr. Pretty, at the suggestion of the late Mr. Walford, teacher of midwifery, in the Aldersgate-Street School, recommends the use of the tourniquet to restrain flooding after delivery. It is to be applied over the abdomen, so as to exert a sufficient degree of pressure on the womb. There are many cases of flooding which require this continued compression of the womb; and it has often struck us that the womb has not only a power of contraction, but also a real power of dilatation, which it occasionally exerts quite independent of the distension produced by a coagulum. It often happens that the practitioner has satisfactorily compressed the womb, and feels it just above the pubes like a large cricket ball; suddenly there occurs violent flooding, and examining the abdomen the womb is again distended; not invariably by coagulum as is supposed, for in that case the coagulum would be sooner or later discharged, whereas, this does not occur, but the discharge is liquid as immediately after delivery. In these cases, continued compression of the womb, with a linen cloth repeatedly dipped in cold water, and the exhibition of a large dose of laudanum, will invariably succeed; but the hand must not be withdrawn until the opiate has stopped the action of the womb, and when this is the case, no more flooding will occur—the womb will *remain* contracted. In these cases it is a question whether secale is necessary or not; there seems to be no difficulty in producing contraction; the difficulty seems to be in preventing the dilatation, and this is most effectually accomplished in many of these cases, not by stimulating, but by staying the action of the womb when once completely contracted. It is necessary, however, carefully to discriminate between cases where there is actual contraction, (in which the secale is invaluable), and cases such as we have described, where the contraction is perfect for a time, and an active state of dilatation succeeds. When the uterus has thus to be compressed for a great length of time, a tourniquet would be useful; but this we imagine will seldom be required except in very extraordinary cases. Mr. Pretty likewise alludes to the whalebone vectis, which is used so successfully by Dr. Conquest, and although not a new midwifery instrument, it is not generally known by the profession, and certainly not so much used as it might be, in preference to more dangerous instruments. It is formed of a thin loop of whalebone fixed to a handle. The loop can often be passed easily over the occiput, and traction made effectually. (104.)

Some of the most troublesome and intractable cases which come under our notice are those of procidentia uteri; in which the woman will occasionally submit to any operation to be cured of her disagreeable malady. Almost every remedy has been in vain tried in many of these cases. The actual cautery, though a severe remedy, will often be successful when all other applications have failed. Cases where this was successfully applied are brought forward by Dr. Lawrie, of the Glasgow Infirmary. Weiss's three-pronged speculum was introduced and dilated, and the actual cautery freely applied to both lateral surfaces of the vagina, nearly as high as the uterus. Great pain was of course experienced, followed by other severe symptoms: the patient was kept recumbent for about six weeks. We need hardly mention that the contraction of the vagina is here made to support the womb; and this must occasionally give way, especially when previously over-distended by the use of large pessaries; and therefore in all cases of procidentia it will be well to make use of some kind of support, such as that recommended by Mr. Clay, previously noticed, which will not produce this relaxation of the vaginal parietes. (105.)

A remarkable case is advanced by Mr. Rawson, in which the woman is said to have been delivered without being in the least conscious of the event. The child was slowly and unintermittingly, but forcibly, expelled. This is chiefly valuable in a medico-legal point of view. (110.)

Dr. R. Willis has thrown new light on the intention of nature in the portal circulation. Why has she departed so singularly in this part of the body from the ordinary mode of circulation in general? There is no sufficient reason for supposing that the blood from the intestines contains more of the elements of bile than that from other sources; and moreover it happens that occasionally the portal system is found absent, and yet bile is continued to be secreted. Reptiles and fishes have actually a portal system of the kidneys, as well as one for the liver. It appears to be as Dr. Willis states, "a most admirable contrivance to economise arterial blood." Carbon, it will be remembered, is highly pernicious to the system, and therefore requires an extensive apparatus to get rid of it—the whole mass of blood must be passed through the lungs with great rapidity for this purpose; the superfluous carbon is thus "literally burned out"—but urea and bile are not so pernicious as to require this hasty departure from the blood, and therefore only a part of the blood is required to be circulated at a time through the kidneys and liver. If it had been necessary to supply so large a viscus as the liver with arterial blood for the purpose of freeing it of bile, it would have required a vessel "of the calibre equal to the sum of the vessels whose contents are finally collected into the portal vein." But nature proceeds more economically—she first makes use of the blood to supply and vitalise the viscera, and then sends it to the liver, where, although perhaps useless as a vivifying fluid, it is still able to yield the bile if subjected to the elective affinity of the liver. (111.)

The connection between malaria and the evolution of sulphuretted hydrogen from different localities, is strikingly pointed out in an interesting paper by Professor Daniell. He seems clearly to prove that the unhealthiness of particular places, as the western shores of Africa, and particularly where large rivers empty themselves into the ocean, is owing to the evolution of sulphuretted hydrogen, produced by "the decomposition of the sulphates in the waters by the carbonaceous matter of vegetables." So small a mixture as a fifteen hundredth part of the sulphuretted hydrogen in the atmosphere, acts as a direct poison upon small animals, and produces very uneasy sensations on the human body. When in larger proportions its effects are still more remarkable, producing sudden weakness and all the signs of asphyxia. The fatal effects of a communication of the sea water with inland marshes, was observed by Signor Giorgini in 1741, exactly a century ago, on the bos-

dans of the Mediterranean. Dr. Robert Hamilton of Lyme Regis, noticed the same fact in 1793. Dr. James Allen in his paper "on some of the predominant diseases of the African islands," arrives at the same conclusions, without, however, giving the same explanation that Professor Daniell does. It seems evident that wherever such decomposition goes on as to produce the evolution of sulphuretted hydrogen, the dreadful effects of miasma will follow to the animal system. And it is highly satisfactory that Professor Daniell having so clearly traced the cause of this pestilential influence, has also directed us to the remedy, namely, *chlorine*. Chlorine and sulphuretted hydrogen cannot co-exist together. "Plentiful fumigations of chlorine would, therefore, infallibly prevent the deleterious effects." This ought to be particularly known in Africa and the islands adjoining its eastern coast, Madagascar, &c., and also in the unhealthy climates of the east and west, where there is frequently every facility afforded for the intermixture of the waters of the ocean with the immense quantities of vegetable matter washed down by the rivers and torrents from the luxuriant soil. (112.)

The stormy discussions in the medical circles of Paris respecting poisoning by arsenic, have not yet ended satisfactorily. Orfila has endeavored to prove by a series of experiments "that arsenic may be taken into the stomach and produce death without any remaining in that organ after death, the poison having been absorbed into the system and deposited in the tissues; and that there is a peculiar tendency to pass off arsenic by the urinary excretion." M. M. Flandin and Danger have made a report to the *Academie des Sciences*, in direct opposition to this statement of Orfila, which will be seen in article 114: and again the *Academie de Medicine* in which Orfila's influence and authority prevail have endeavoured to explain these seeming contradictions. (114.)

In one of the recent French journals, M. Guerin relates a case where he successfully cured a case of hernia, by means of the subcutaneous operation; and M. Bouchet proposes the same kind of operation in strangulated hernia, by means of a special instrument introduced into the cavity of the sac, through the internal orifice, by means of a puncture made in the integument. "The instruments consist of a bistoury with a narrow blade and a marked *kelatome*, (a kind of lengthened and flat trocar gliding in its canule.)" The puncture should be made at the point, where a fictitious line, drawn from the *antero-superior prominence* of the ilium to the *linea alba*, reaches the externe edge of the rectus muscle. The skin, adipose tissue, and aponeurosis should be divided with a bistoury. The kelatome should then be used, being directed inwards towards the pelvis." The other steps of the operation are related in article 115. We suspect that most English surgeons will not venture on this delicate and dangerous operation in this way, without being satisfied by ample experience that it is safe. It is working too much in the dark for those who have real regard for their patients, especially when we have already a tolerably safe operation for this affection, when performed sufficiently early. (115.)

BIBLIOGRAPHICAL NOTICES.

A Treatise on the Nature, Causes, and Treatment of Erysipelas. By Thomas Nunneley, Lecturer on Anatomy, Physiology, and Pathology, in the Leeds School of Medicine, Surgeon to the Leeds General Eye and Ear Infirmary, &c., &c.

It is singular that on so important and prevalent a disease, this should be the only monograph which we possess: for although the disease has been ably and repeatedly treated of in different publicatons, by both the physician and surgeon, no separate work seems to have been devoted to the subject. Mr. Nunneley has taken a much more extended view of the disease than has hitherto been done by any author with whom we are acquainted. He affirms that Erysipelas and Erythema are essentially the same disease, and no writers have clearly marked the distinctions between them. It is not exclusively a disease of the skin, the diseases which may be included in the term Erysipelas being Erythema, diffuse inflammation of the cellular tissue, puerperal fever, diffuse inflammation of the peritoneum and pleura, of the mucous membrane, of the arachnoid membrane, and of the veins and lymphatics. In the treatment of this formidable disease, we are struck by the conflicting opinions of the most eminent practitioners; some treating it almost invariably by powerful tonics, and others by vigorous blood letting, and antiphlogistic measures; whereas, "bearing in mind that which chiefly distinguishes phlegmonous from erysipelatous action, and probably determines why the one form of inflammation rather than the other is developed, viz. that in the former there is increased action with corresponding power, in the latter increased action without the power to act with,"—it is evident we must be guided by the symptoms which are present. Mr. Nunneley enters very fully into the treatment of the disease in all the varieties of ways recommended by the best authors; viz., by venesection, tonics and stimulants, emetics, mercurials, purgatives, local bleeding, especially by cupping, leeches, punctures and incisions, nitrate of silver, &c., &c.

Mr. Nunneley makes the following remarks on the treatment by punctures: "There is no part of the body, nor any stage of the complaint, in which punctures may not be practised with benefit; and in erysipelas of the face, when other methods of abstracting blood are extremely inconvenient, or, indeed, with the exception of leeches, quite inapplicable, they are very useful. The blood flows more freely from the face than any other situation, on account of the skin being thin and more vascular. I am accustomed to puncture in almost all cases of erysipelas of the face, which are at all severe, and not unfrequently upon the trunk and extremities. The comfort produced is often perfectly surprising. The pain produced at the moment of making the puncture is severe, but it is of very short continuance."

In conclusion we beg to recommend this work to the profession as being one of great value, not only for the originality of the matter, but for the immense number of references to the best authorities on the subject.

Practical Observations on the Injuries of the Head. By WILLIAM SHARP, F.R.S., F.G.S., F.R.A.S., and Senior Surgeon to the Bradford Infirmary.

This is one of the very few treatises published in the present day the tendency of which is strictly practical. It is valuable not only on account of the number of excellent cases which are ably discussed by one of our ablest and most experienced provincial surgeons, but also on account of the judicious mode of treatment which is invariably pointed out in the course of the volume. We transcribe the following remarks respecting the prognosis in cases of concussion, which ought to be impressed on the minds of our young readers in particular. "An attentive practitioner will always remember that slight symptoms coming on some days or weeks after the accident, bring with them a far more serious indication of mischief than similar symptoms occurring immediately on the injury being inflicted; and also that a patient who has suffered from concussion of the brain, in any of its forms, must not be considered really safe until he has for some time remained perfectly well. Sir A. Cooper stated in his lectures, that "no patient is safe from the effects of concussion till fourteen days after the accident," that is I suppose when no symptoms, or only very slight ones have arisen; but I should feel it to be my duty to watch a patient for a much longer period than this before I could dismiss my feelings of anxiety about him." p. 66. We can only point out the volume to our readers as one which does honour to provincial surgery.

The Cyclopædia of Practical Surgery.—Article "*Intestinal Fistula.*" By THOS. PRIDEIN TEALE, F.L.S., Surgeon to the Leeds General Infirmary, and Lecturer on Anatomy and Physiology at the Leeds School of Medicine.

When we say that the different articles in the Cyclopædia of Practical Surgery are of first-rate excellence, we cannot but comprehend in this eulogy the article on Intestinal Fistula, by Mr. Teale. Placed in one of the most extensive fields for the cultivation of practical surgery in the kingdom, not even excepting the metropolitan hospitals, he has availed himself of his opportunities. The article in question will amply repay the reader's attention. We have only space here to direct our readers to this and most of the other articles in this excellent work.

The Phisiology of Digestion, considered with relation to the Principles of Dietetics. By ANDREW COMBE, M.D., Fellow of the Royal College of Physicians in Edinburgh, and Consulting Physician to their Majesties the King and Queen of the Belgians. *Second Edition.*

Although this work is as much if not more intended for the general reader than strictly for the medical, yet it is a work in which every medical man must take interest; it displays throughout, exact knowledge of the laws of the animal economy, and is a book which we can especially recommend to those who are commencing the profession. It will probably supersede most of those works on diet and digestion which have lately issued from the press, as it comprehends almost every piece of practical as well as physiological information which is to be found in the most learned works on the subject.

INDEX TO PART IV.

PAGE

Abscess, mammary, use of compression in 104
Acid, hippuric, on 27
Aconite, tincture of, in neuralgia and chronic rheumatism 30
Acton, W., on use of injections in gonorrhœa 95
Acid, hydrocyanic, action of, on the eye 117
Actual cautery, in procidentia uteri 129
Acupuncture of the heart in apparent death 53
Affection, spasmodic, of the larynx, with veratria, treatment of 29
Affections, scrofulous, chloride of barium in 64
Affusion, cold, on the employment of, in acute hydrocephalus 65
Alumina and potass, sulphate of, in hæmorrhage 23
Alcock, R., on circular and flap amputations 89
Alessi, Signor, on hereditary ptosis 108
Amputations, circular and flap, comparative advantages of 89
Amaurosis, ocular myotomy in certain cases of 109
Antimony, tartrate of, in treatment of hæmoptysis 35
Angina, or sore throat, treatment of, by alum 22
Articulations, effects of immobility on the 110
Arsenic, poisoning by 145
Aran, M., and others, on treatment of acute rheumatism 49
Asphyxia, on, and on the resuscitation of still-born children 47
" congenital 126
Auscultation and percussion rectification in the practice of 7
Baron, J., on the propagation of the variolæ vaccinæ by crusts from the cow 21
Baths, local, on 55
Barium, chloride of, in scrofulous affections 64
Bandaging, new system of 113
Baudeloque, M., on advantage of keeping the umbilical cord whole, &c. 135
Becker, M., on belladonna in cases of ileus 52
donna, extract of, in the reduction f paraphimosis 105
E. P., on absence of the uterus 133
n use of morphia in strangu- ernia 96
on ergot of rye 73

PAGE

Boinet, Dr., on extraction of a gold pin from the urethra 115
Bone, formation of 148
Bouisson, M., on cause of hare-lip 150
Braid, J., observations on talipes 80
Breschet, M., on contraction of the fingers cured by electricity 53
Buchanan, Dr. A., on a method of restoring the lower lip, after various operations 88
Bullock, Dr. H., on a case of tetanus cured by tobacco 40
Burne, Dr., on a new plessor and plessimeter 37
Carpenter, Dr., on philosophical history of the reproductive function 144
Cartilages, subcutaneous division of, in crooked nose 107
Cæsarian section, case of 122
Cataract, depression for, &c 87
Carraro, Dr., on acupuncture of the heart in apparent death 53
Cantharidis, oleum and emplastrum, formula for 48
Children, still-born, on the resuscitation of 47
" " immersion of, in cold water 126
Chorea, strychnine in 72
" treatment of 37
" " 55
Club-foot, on 113
Clay, Dr. Chas., on a new kind of pessary 119
Cochrane, J., on croton oil for nervous disorders 36
Colchicum autumnale 10
Convulsions, certain forms of, oxide of zinc in 25
Colica pictonum treated with warm water 44
Copaiba, how to make into pills 73
Cooper, B., on excision of joints 101
Cornea, opacity of the, iodine in 104
Compression in mammary abscess, use of 104
Conjunctiva, sutnre of the, &c 110
Curtis, J. H., on Gruber's ear speculum, &c 102
Canier, M., on suture of the conjunctiva, &c 110
Curtis, J., on tincture of aconite, in neuralgia and chronic rheumatism ... 30
Daser, Dr., on reduction of a strangulated hernia, &c 116
" on hæmorrhage after lithotomy, &c 117
Disorders, nervous, croton oil for 36
Disease, hydro-sympathic treatment of 64
" **hydrocephaloid, on the** 50

Dieffenbach, Dr., on cure of crooked nose by subcutaneous divisions of the muscles..... 107
Dieffenbach, Dr., on cure of the slighter degrees of strabismus, &c..... 108
Donovan, M., on the iodide of iron..... 56
" on the preparation of vinum ferri..... 49
Dropsy of the amnion, curious case of.. 125
Dropsies, spontaneous cure of..... 148
Ducros, M., on functions of the skin.... 151
Dysentary, acute tropical, treatment of. 71
Effusion, treatment of chronic pleurisy with..... 68
Elbow-joint, excision of..... 113
Electricity, poisoning by laudanum treated by..... 19
" contraction of the fingers cured by..... 53
" or galvanism, best mode of employing, in the cure of neuralgia.. 62
Entropion, subcutaneous myotomy in... 109
Excision of the elbow-joint..... 113
Eye, action of hydrocyanic acid, on the. 117
Femur, apparatus for oblique fractures of the shaft of..... 116
Ferrall, J. M., on certain structures of the orbit, &c..... 74
Fingers, contraction of, cured by electricity..... 53
Fistula, urinary, treatment of..... 106
" recto-vaginal, treatment of..... 113
Flourens, M., on formation of bone..... 148
Foulhioux, M., on strychnia in chorea... 79
Fyfe, Dr. Geo., on use of secale cornutum..... 14
Gelatine, nutritive power of..... 149
Gibert, M., on hydro-sudopathic treatment of disease..... 64
Gold pin, extraction of, from the urethra 115
Gonorrhœa, use of injections in..... 95
Grahl, Dr., on croup and its cure..... 56
Green, Dr. Hennis, on treatment of chorea..... 55
" " on oxide of zinc in certain forms of convulsions..... 25
Gregory, Dr., on vaccination and small-pox..... 43
Guerin, Dr., on club-foot..... 113
Hæmoptysis, treatment of, with tartrate of antimony..... 35
Hæmorrhage after lithotomy, stopped by creosote..... 117
" after delivery, controlled by use of tourniquet..... 127
Hare-lip, cause of..... 150
Hauck, Dr., on the mode of treating itch at Berlin..... 59
Hall, Dr. M., on the use of setons in paraplegia, &c..... 46
" on the hydrocephaloid disease..... 50
" on conjenital asphyxia.... 126
Heart, sounds of..... 150
" acupuncture of the, in apparent death..... 53
Hernia, subcutaneous operation in..... 146
" strangulated, use of morphia in. 96
Hernia, strangulated, reduction of a, by acupuncture..... 116
Hernia, pseudo-strangulations of..... 111
Hope, Dr. J., on treatment of chronic pleurisy with effusion..... 68
Hydrocele, radical cure of..... 99
Hydrocyanic acid, action of, on the eye. 117
Ileus, belladonna in cases of..... 89
Injections, use of, in gonorrhœa..... 95
Immobility, effects of, on the articulations 110
Immersion of still-born children in cold water..... 126
Iron, hydrocyanate of, a cure for epilepsy..... 63
" iodide of, on the..... 56
Iodine, hints for the administration of... 58
Isinglass plaster..... 106
Itch, mode of treating, at Berlin..... 59
James, M. C., on the best mode of employing electricity or galvanism in the cure of neuralgia..... 62
" on paralysis of the seventh pair of nerves..... 63
Janson, M., on hydrocyanate of iron, as a cure for epilepsy..... 63
Jobert, M., on the employment of nitrate of silver in white swelling..... 100
Joints, on the excision of..... 101
Judd, W. H., on the structure of the small-pox pustules, &c..... 32
Kissler, M., on effects of immobility on the articulations..... 110
Lane, C. H. B., further observations on the oxide of silver..... 16
Laudanum, poisoning by, treated by electricity..... 19
Lawrie, J. A., on use of actual cautery in procidentia uteri..... 120
Lens, catoptrical exploration of the..... 94
Lewins, R., Jr., on colchicum autumnale 10
" Dr. R., on treatment of acute tropical dysentery..... 71
Liquor hydriodatis arsenici et hydrargyri, on..... 66
Lohsse, Dr., on iodine in opacity of the cornea..... 104
Lip, lower, a method of restoring the, &c. 98
Lynch, Dr. M. H., on sulphate of alumina and potass in hæmorrhage..... 22
Maddock, Dr., on efficacy of opium injections in cases of nervous excitement..... 44
Macartney, Dr., on an apparatus for applying water in the form of irrigation..... 90
Mayor, M., on local baths..... 85
Malgaigne, M., on pseudo-strangulations of hernia..... 111
Malherbe, M., on cyanide of potassium in acute articular rheumatism..... 112
Menstruation during gestation, and amenorrhœa in the intervals..... 128
Mignot, Dr., on extract of belladonna, &c. 105
Mondiere, M., on spontaneous cure of dropsies..... 148
Morphia, use of, in strangulated hernia.. 96
Morgan, J., on modification in the operation of depression for cataract.... 97
Mojsisovits, Dr., on the administration of iodine..... 58
Moyle, M. P., on polypus of the uterus, &c..... 120

On the Remote Cause of Epidemic Diseases. By JOHN PARKIN, Fellow of the Medical and Chirurgical Society of London, and Graduate in Medicine of the University of Erlangen, &c., &c.

Mr. Parkin in this work advances theories which, however interesting and plausible, we should deem without sufficient foundation to warrant belief. He considers that epidemics and endemics have often their cause in a poisonous matter being extricated from subterranean reservoirs, and that it becomes innocuous where largely diluted in the atmosphere. He traces the ravages of cholera in the same line of the earth's surface from east to west, in which volcanic action has repeatedly been felt. He says, "it would also appear that the extrication of gaseous and other matter along the lines which marks the operation of volcanic agency, sometimes takes place slowly and progressively. If so we can account for the spread of epidemic deseases, and their extension from country to country, independent of contagion or human infection." This book contains many ingenious arguments and striking facts which are worthy of perusal, although the theory which Mr. Parkin founds upon them will not probably obtain the general belief of the profession.

Manchmeyer, Dr., on the employment of the cold affusion in acute hydrocephalus..... 65
Myotomy, ocular, in certain cases of amaurosis..... 109
" subcutaneous, in entropion.. 109
Negrier, Prof., on leaves of the walnut in scrofula..... 60
Nervous excitement, efficacy of opium injections in cases of..... 44
Nerves, paralysis of the seventh pair of, on..... 63
Neuralgia, cure of, best mode of employing electricity or galvanism in the 62
Neuralgia and chronic rheumatism, tincture of aconite in..... 30
Nunneley, Thos., on caoutchouc thread for sutures..... 91
Nutritive power of gelatine..... 149
Ointment, potash, preparation of the hydriodate of..... 73
Oil varnish, on the application of, to the immovable apparatus, &c..... 105
Oil, croton, for nervous disorders..... 36
Opium injections, efficacy of, in cases of nervous excitement..... 44
" process for preparing a pure and watery solution of, free from narcotine..... 17
Orbit, on certain structures of, &c..... 74
Paralysis of the seventh pair of nerves, on..... 63
Paraphimosis, reduction of, extract of belladonna in the..... 105
Parturition without consciousness..... 135
Paraplegia, &c., use of setons in..... 46
Payan, M., on chloride of barium in scrofulous affections..... 64
" on malignant looking ulcers of the face, &c..... 108
Petrequin, M., on ocular myotomy in certain cases of amaurosis.. 109
" " on subcutaneous myotomy in entropion..... 109
" " on treatment of recto-vaginal fistulæ..... 113
Pessary, new kind of..... 119
Pills, how to make copaiba into..... 73
Plaster, isinglass..... 106
Plesser and plessimeter, new..... 39
Pleurisy, chronic, treatment of, with effusion..... 68
Pneumonia, treatment of..... 45
Portal circulation, signification and ends of..... 136
Poisoning by arsenic..... 145
Potass, and alumina, sulphate of, in hæmorrhage..... 23
" large doses of, treatment of acute articular rheumatism by..... 34
Pretty, W., on use of tourniquet, &c... 127
Potassium, iodide of, on large doses of, in the last state of acute hydrocephalus 54
Procidentia uteri, use of actual cautery in 129
Quinine, on the sulphate of, in the typhus of children..... 64
Randall, H. K., on rupture of the uterus, &c..... 130
Rawson, T. E., on parturition without consciousness..... 135
Reproductive function, philosophical history of..... 144
Retrospect..... 153
Resuscitation of still-born children, on.. 47
Ricord, M., on treatment of urinary fistulæ..... 106
Rigal, M., on a new system of bandaging 113
Roux, M., on excision of the elbow-joint 113
Rheumatism, chronic, and neuralgia, tincture of aconite in..... 30
" acute articular, treatment of, by large doses of nitrate of potash..... 34
" acute, treatment of..... 49
" acute articular, cyanide of potassium in..... 112
Roeser, Dr., on iodide of potassium in the last state of acute hydrocephalus..... 54
Rye, ergot of..... 73
Scholer, Dr., on immersion of still-born children in cold water..... 126
Scrofula, leaves of the walnut in..... 60
Setons, use of, in paraplegia, &c..... 46
Sea-water, artificial..... 65
Secale cornutum, on the..... 14
Silver, nitrate of, employment of the, in white swellings..... 100
" oxide of, further observations on 18
Skin, functions of..... 151
Skoda, Dr. J., on rectification in the practice of auscultation and percussion 7
Smith, T. & H., on preparation of the hydriodate of potash ointment 73
" " on a process for preparing a pure and concentrated watery solution of opium, free from narcotine..... 17
" J., on a formula for oleum and emplastrum cantharides..... 48
Small-pox pustule, on the structure of the 31
" on, and vaccination..... 43
Snow, J., on asphyxia, and on the resuscitation of still-born children.. 47
Soap, treatment of burns by..... 101
Sounds of the heart..... 150
Speculum, ear, &c..... 102
Strychnine in chorea, on..... 72
Stoll, Dr., on treatment of hæmoptysis with tartrate of antimony..... 35
Swellings, white, employment of nitrate of silver in..... 100
Subcutaneous operation in hernia..... 146
Sutures, caoutchouc thread for..... 91
Tape-worm, treatment of..... 26
Talipes, observations on..... 80
Tavignot, M., on the application of oil varnish, &c..... 105
Tetanus cured by tobacco..... 40
Throat, sore, or angina, treatment of, by alum..... 22
Tinea favosa, a vegetable production... 151
Toogood, Jon., on a curious case of dropsy of the amnion..... 125
Tobacco, tetanus cured by..... 40
Tourniquet, use of, to restrain hæmorrhage after delivery..... 127
Tunstell, Dr., on treatment of spasmodic affections of the larynx with veratria..... 20

Tumours, reduction of..... 106
Turnbull, Dr., on the action of hydrocyanic acid on the eye..... 117
Typhus of children, on sulphate of quinine in the..... 64
Ulcers of the face, &c..... 108
Umbilical cord, &c..... 135
Ure, Alexander, on hippuric acid..... 27
Uterus, polypus of the, expelled by secale cornutum..... 120
" rupture of, and escape of fœtus into the abdomen..... 130
" absence of..... 133
Vaccination and small-pox, on..... 43
Variolæ vaccinæ, on the propagation of the, by crusts from the cow..... 21
Velpeau, M., on treatment of sore throat, or angina, by alum..... 22
" on radical cure of hydrocele 99
Vinum ferri, on the preparation of..... 49
Walnut, leaves of the, in scrofula..... 60
Wardlaworth, T. H., on treatment of chorea..... 37
Watson, Dr., on treatment of pneumonia 45
" on catoptrical exploration of the lens..... 94
Water, apparatus for applying, in the form of irrigation..... 98
Wawruch, Dr., on treatment of tapeworm..... 26
Wilson, Dr. J., colica pectonum treated with warm water..... 44
Williams, Dr. C. H. B., on poisoning by laudanum, treated by electricity.. 19
Williamson, Dr. T., on treatment of burns by soap..... 101
Whitehead, J., on a case of Cæsarian section..... 122
Willis, R., on signification and ends of the portal circulation..... 136
Zinc, oxide of, in certain forms of convulsions..... 25

END OF PART IV.

THE

RETROSPECT

OF

PRACTICAL MEDICINE AND SURGERY,

BEING

A Half-yearly Journal,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

Edited by

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CONTENTS OF NO. V.

PRACTICAL MEDICINE.

ARTICLE.		AUTHOR.	PAGE.
1.	On the Sounds of the Heart	*Dr. Watson*	13
2.	Medicinal Properties of Leontondon Taraxacum	*Joseph Houlton, Esq.*	18
	On Taraxacine	*M. Polex*	19
3.	On Percussion	*Dr. J. H. Bennet*	20
4.	On Asthma	*— Watson*	22
5.	On the Preparations of Antimony	*William Tyson, Esq.*	26
6.	Opium in Peritonitis	*Dr. Watson*	28
7.	Gold Leaf and Iron Filings, as a Galvanic Antidote to Corrosive Sublimate	*— T. H. Buckler*	29
8.	On Incipient Cancer of the Womb	*— Montgomery*	35
9.	On Chorea	*— B. G. Babington*	38
10.	Treatment of Sciatica and other Forms of Neuralgia by Turpentine	*— M. Martinet*	42
11.	Valuable Hints from the Different Pharmacopœias		43
12.	Treatment of Painters' Colic	*Dr. C. J. B. Williams*	47
13.	Further Observations on Asphyxia	*John Snow, Esq.*	48
14.	On the Hot and Cold Forms of Rheumatism and their Treatment	*Dr. Taylor*	50
15.	Paralysis Treated with Cantharides	*— Seymour*	52
16.	On the Solution of Urinary Calculi by the Waters of Vichy		53
17.	Use of Elaterium in Renal Dropsy	*— Clendinning*	54
18.	On Opium Smoking, as a Remedial Agent	*— James Johnson*	56
19.	"Clinkers," a New Form of Administering Iron	*C. J. Edwards, Esq.*	57
20.	New Researches on Diabetes Mellitus	*M. A. Bouchardat*	59
21.	Leeches to the Knee in Dysmenorrhœa	*M. Trousseau*	61
22.	Nitrate of Silver in Gastric Affections	*Dr. Robert Dick*	61
23.	On Narcotism in Neuralgic Diseases	*M. Levrat*	62
24.	On Coffee as an Antidote in Poisoning by Morphia	*Dr. B. Fosgate*	62
25.	On the Practice of Electro-puncture	*— Dunglison*	63
	On Mustard-seed Oil	*— Dunglison*	64
26.	On Large Doses of Quinia in Intermitting Fever	*— Austin Flint*	65
27.	Infantile Convulsions treated by Ice to the Spine	*— R. B. Todd*	67
28.	On Different Preparations of Iron	*William Tyson, Esq.*	68
29.	On Diabetes Mellitus	*Dr. George Budd*	70
30.	Diacetate of Lead in Internal Hæmorrhage	*—— Sweeting, Esq.*	75
31.	On Poisoning by Laudanum	*Dr. Buck*	75
32.	On Rheumatic Dermalgia	*J. S. H. Bear*	76
33.	Croton Oil in Tic-douloureux, &c.	*Dr. J. A. Easton*	78
34.	Rapid Vesication and Counter-Irritation by Burning Æther, &c.	*C. J. Edwards, Esq.*	80
35.	Pharmaceutical Bread	*Henry Deane, Esq.*	81
36.	Saturation of Acids and Alkalies	*H. Scholefield, Esq.*	82
37.	On Infusions, &c.		83
38.	On Counter Irritants	*Dr. Turnbull*	84
39.	Antidote to the Salts of Copper	*M. Benoist*	84
40.	On Blistering Plaster	*M. Soubeiran*	85
41.	Artificial Harrogate Water		85
42.	Gelee pour le Goitre	*Thomas Beesley, Esq.*	86
43.	Colection and Preservation of Hyoscyamus	*Joseph Houlton, Esq.*	87
44.	On the Extemporaneous Preparation of Medicated Waters	*John Fordred, Esq.*	87
45.	Phloidrine, a new Substance		88
46.	Yellow Amber in an Anomalous Nervous Affection	*M. Gerard*	89

SURGERY.

47. On Lithotomy and Lithotrity.....*Edwin Lee, Esq.*..... 89
48. On Stricture of the Urethra.....*Arnott, Wade, Cooper, Arntzenius, &c.*.. 98
49. Treatment of Injured Intestine from a Blow upon a Hernial Sac.....*C. Aston Key, Esq.*..... 104
50. On Intestinal Obstruction from Stricture of the Sigmoid Flexure of the Colon.....*T. P. Teale, Esq.*..... 107
51. On Tapping of the Thorax.....*John Snow, Esq.*..... 11[illegible]
52. Vesico-Vaginal Fistula cured by the Actual Cautery....*Dr. S. A. Payan*..... 113
53. On the Treatment of Gangrenous Inflammation, Porrigo, and Lepra.....*W. Davidson*..... 115
54. On Amputation, and the Mode of Dressing the Stump....*Robert Liston, Esq.*..... 119
55. On Pseudo-Strangulation of Hernia.....*M. Malgaigne*..... 122
56. On the Opening of the Temporal Artery.....*H. Carmichael, Esq*.... 124
57. Prolapsus of the Bladder Cured by Operation.....*R. T. Lightfoot, Esq*.... 125
58. Mode of Passing the Ligature for Popliteal Aneurism....*Bransby Cooper, Esq*... 127
On Concussion of the Brain.....*By the Same*..... 128
59. Two Cases of Excision of the Callus in badly-united Fractures.....*Professor Portal*..... 128
60. On Lime Moxa.....*Dr. Osborne*..... 129
61. On Ligature of the Carotids.....*James Miller, Esq*..... 130
62. Sulphate of Iron as an Application in Erysipelas.....*M. Velpau*..... 132
63. Treatment of Strangulated Hernia by Copious Injections..*A. S. Lawrence, Esq*.... 132
64. Amaurosis from Pressure on the Retina.....*Dr. E. O. Hocken*..... 133
65. Treatment of Varix.....*M. Velpeau*..... 134
66. Treatment of Varicocele.....*By the Same*..... 136
67. On Tracheotomy.....*M. Maslkieurat*..... 137
68. M. Colombot's Method of Reducing Dislocations of Orbicular Joints.....*Professor Williams*..... 138
69. Catheters with Globular Tops.....*George Rogers, Esq*..... 140
70. Amadon, as a Surgical Application.....*J. Wetherfield, Esq*..... 141
71. On Wounds received in Dissecting.....*Herbert Mayo, Esq*..... 141
72. Injection of Diluted Tincture of Iodine in Hydrocele....*J. R. Martin, Esq*..... 141
73. On the Opening of Chronic Abscesses by the Subcutaneous Method.....*M. Jules Guerin*..... 141
74. On Division of the Muscles of the Face when affected with Chronic Spasms.....*Dr. Dieffenbach*..... 142
75. Treacle and Water for Burns.....*F. A. Bulley, Esq*..... 142
76. Permanent Closure of the Jaws Cured after the Lapse of Five Years, by Division of the Masseter Muscle.... *W. Fergusson, Esq*.... 142
77. Treatment of Iritis and Conjunctival Inflammation, by Belladonna Injections.....*F. A. Bulley, Esq*..... 142
78. Case of Nasal Enlargement Successfully Treated.....*Dr. Charles Clay*..... 143
79. Division of the Muscles of the Eye in certain cases of Blindness.....*M. Florent Cunier*..... 143
80. On Inflammation of the Mucous Follicles of the Vulva, and its Treatment.....*M. A. Robert*..... 143
81. On Iodine Injections in the Treatment of Serous Cysts....*M. Velpau*..... 143
82. Treatment of Old Ulcers by the Use of Corrosive Sublimate and Tincture of Iodine.....*W. Fergusson, Esq*.... 144
83. On Cauterisation of the Neck of the Womb..... - - - - - 144
84. On the Subcutaneous Ligature of Arteries.....*F. L. Tavignot*..... 144
85. Use of Alum in the Treatment of Stricture of the Urethra..*M. Jobert*..... 145
86. On the Process of Inoculation as a Test of Syphilis.....*Herbert Mayo, Esq*.... 145
87. Opium in Strangulated Hernia..... - - - - - 146

MIDWIFERY.

88. On Adhesions and Strictures in the Vagina during Pregnancy and Labour.....*Dr. Doherty*..... 148
89. Remarkable Case of Rigidity of the Os Uteri.....*E. J. Shearman, Esq*.. 149
90. Ante-Version of the Womb cured by Position alone.....*Dr. Godefroy*..... 151
91. New Obstetrical Instrument, the Kapalepsalis..... — *Wm. Campbell*.... 152
Dr. Davis's Osteotomist..... — *John Davis*..... 153
92. On the Contraction of the Womb..... — *Alison*..... 155
93. Hæmorrhage after Delivery arrested by the Application of Cold Water to the Internal Surface of the Womb..— *Hecking*..... 157

94. Case of Gravid Uterus passing into the Sac of an Old Ingual Hernia, in which the Cæsarian Section was Performed.....*Dr. T. Fischer*..... 158
95. Precautions to be Used in Detecting Kiestein.....*H. Letheby, Esq*..... 159
96. Ergot Producing Abortion in Cows..... 160
97. Remarkable Birth of Twins.....*Dr. Schroder*..... 160
98. On the Prevalence of Calcareous Salts in the Urine of Pregnant Women.....*M. Donne*..... 161
99. On the Use of the Plug to Produce Premature Labour...*Dr. Scholler*..... 162
100. New Substance, Gravadine, as a sign of Pregnancy.....— *Stark*..... 162

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

101. On the Secretion of Tubercle.....*Dr. T. H. Watts*..... 164
102. On the Uses of the Liver.....— *John Bostock*..... 168
103. On the Non-Vascular Animal Tissues.....*Joseph Toynbee, Esq*.. 170
104. On the Nervous Ganglia of the Uterus.....*Robert Lee, Esq*..... 174
105. On the Prognosis regarding Affections of the Portio Dura..*Dr. Graves*..... 174
106. On Albuminaria, or Bright's Disease of the Kidney.....*Dr. Graves*..... 174
107. On the Membrana Decidua.....— *Sharpey*..... 174
108. On Animal Heat.....— *F. T. Richardson*. 174
109. On the Corpuscles of the Blood.....— *Martin Barry*.... 174
110. On the Transmissibility of Cancer..... 174
111. On the Sounds of the Heart.....*M. Cruveilheir*..... 174
112. On the Position of Images in the Eye.....*H. Broughton, Esq*... 174
113. On the Extreme Ramifications of the Minute Arteries and Veins in the Coats of the Intestines.....*Dr. Gaddi*..... 174
114. On the Structure and Use of the Malphighian Bodies of the Kidney, with Observations on the Circulation through that Gland.....*W. Bowman Esq*.... 174
115. On the Operation for Spinal Curvature.....*G. P. Childs, Esq*.... 174
116. Observations on the Treatment of Hare-lip.....*Dr. John Austin*..... 174
117. Additional Facts Regarding the Structure of the Liver...*M. Ernest Lombron*.. 174
118. Successful Ligature of the Primitive Carotid Artery for an Erectile Tumour of the Orbit, and Results of Experiments made upon Animals with a view to shew the Influence exercised upon them by Ligature of that vessel..*M. Jobert*..... 174
119 Fatal Stab of the Brain.....*Dr. Keyl*..... 174

RETROSPECT.

PRACTICAL MEDICINE,

&c. &c

ART. 1.—ON THE SOUNDS OF THE HEART.

By Dr. WATSON, Lecturer on the Practice of Medicine, King's College, London.

[We are persuaded that one reason why the physical signs of disease of the heart and lungs are so little studied by the medical practitioner, and especially by him whose ambition or pleasure in the science does not stimulate him to aim at a high standing in his profession, is the apparent complexity of the study; whereas, were he in the first place to make himself master of the simple laws of sound, he would easily understand most of the sounds which arise from diseases of the heart and lungs. We are particularly pleased with Dr. Watson's lectures, as he endeavours to simplify the study of these diseases, so that the youngest or most careless practitioner may easily understand them.

Before giving our readers his simple and beautiful explanation of some of the sounds of the heart, it will be necessary to premise a few observations. In studying the diseases of the heart, we must neglect neither the *general* nor the *physical* symptoms, as the one will frequently enlighten us respecting the other. It is especially necessary for us to understand the healthy sounds of the heart before we can understand those which are morbid. It is generally known that the heart in its healthy condition ought only to be heard in the chest within a certain space, "that space in ordinary circumstances corresponds to the interior half of the sternum, and to the cartilages of from the fourth to the seventh ribs on the left side. On the other hand, if the heart be larger than natural it will be heard over a larger space, frequently over the whole chest in front, and behind on the left side, and in extreme cases on the right side of the spine." "Again, the extent of the space over which the heart may be heard to beat, will be increased in proportion to the *thinness* of its walls, and diminished, *ceteris paribus*, according to the thickness of its walls. So that when the heart is of its proper size, if its walls be thin, it will be heard beyond its natural limits; and if its walls be morbidly thick, i. e., if it be affected with considerable hypertrophy, it will not be heard beyond nor even to the extent of its natural limits." "Again, the heart may be heard far beyond its natural limits, even when perfectly healthy, in consequence of the lung between the ear and the heart having become solid, and therefore a better conductor of sound; and the solidification may have resulted from hepatization, or from the presence of a number of crude tubercles." Liquid effusion will also produce the same effect. At the same time we must bear in mind the observations on this subject of Dr. Skoda, of Vienna, who denies the correctness of the common opinion that sound is propagated with increased intensity through lungs whose tubes as well as general structure have

been solidified.* Again, the *impulse* of the heart must ever be borne in mind when we are examining this organ.]

In healthy persons who are thin, you may generally feel the stroke which the heart gives to the ribs, by placing your hand on the præcordial region. In persons who are fat, you often cannot feel the heart beat at all in this manner. For obvious reasons, it is felt more distinctly over a larger space and higher up, while the person is stooping forwards, or makes a forced expiration; less distinctly, over a smaller space, and lower down, when he makes a deep inspiration, or is lying on his back. In proportion as the heart is enlarged by disease, it can be felt more extensively: and when there is hypertrophy, the force with which it strikes the parietes of the chest is sometimes extraordinary, and very instructive. You will see the ear and head of the listener distinctly lifted at every pulsation; sometimes the whole of the patient's body, and his very bed, is shaken by the strong shock of the heart during its systole. There is no sign of hypertrophy so sure as that afforded by the heart's impulse. You feel, not a smart, quick, and sudden knock, but a steady heaving irrepressible swell, which is perfectly characteristic. You may always infer increased thickness of the walls of the organ, when you meet with this regular heaving motion; and the extent to which the whole heart is enlarged in such cases may be discovered by the extent of space over which the heaving impulse is perceptible.

The *sounds* which we hear are two. One of them coincides, in point of time, with the impulse; and barely precedes the beat of the radial artery. It happens, therefore, when the ventricles contract; during the systole. It is accordingly called the *first* sound of the heart, or the *systolic* sound. The other of the two sounds coincides with the diastole, and is spoken of as the *diastolic* or *second* sound. It takes place at the instant when the heart reverts to that place and condition in which it had been prior to the systolic movement. These two sounds occur in quick and regular succession, and then follows an interval of silence, after which the two sounds are repeated; and so on.

The two sounds are not, however, exactly alike. They differ somewhat, both in quality and duration. The first is a dull, prolonged noise; the second a shorter and smarter sound, having more of a clacking or flapping character.

Respecting the physical *causes* of these natural sounds there have been much recent discussion and research. My time, however, will permit me to do little more than tell you what I believe to be the facts of the matter. And I take, first, the diastolic sound, as being the simpler of the two. It used to be ascribed to the contraction of the auricles: but that was quite a mistake. The contraction of the auricles, such as it is, happens immediately *before* the systole of the ventricles; whereas the sound in question occurs immediately *after* it. This we know from the visible movements of the organ when exposed in a living animal. In truth, the auricular contractions are very feeble, and not attended with any appreciable noise. I have no doubt that the second sound is produced mainly, if not altogether, by the sudden shutting of the flood-gates placed at the mouths of the two great outlets of the heart. The recoiling blood forces back the semilunar valves of the aorta and of the pulmonary artery, as one unfurls an umbrella; and with an audible check as they tighten. There is no other tenable mode of accounting for the sound. Experimenters have contrived, by hooks and wires, to prevent these valves from unfolding; and then the flapping sound has been converted into a hiss. Disease of the same valves demonstrates the same things; as we shall presently see.

* See Retrospect of Medicine, No. IV., Art. 1.

Nevertheless, it is both possible and probable that the relapse of the whole organ to its former place may contribute an ingredient towards this second sound.

The first, or systolic sound, is more complex. Partly it is owing, as I believe, to a similar cause with that which occasions the diastolic sound, viz. the abrupt closure of the orifices of communication between the auricles and ventricles, by the reflux of the blood against the ventricular surfaces of the tricuspid and mitral valves; partly, sometimes, to the blow of the heart's apex against the ribs; *chiefly*, however, it consists of the sound that results from the muscular contraction of the ventricles. The systolic sound commences with the tightening of the walls of the ventricles, including the valves; and it is prolonged by the muscular noise. You are aware, I dare say, that the vigorous contraction of a large muscle is accompanied by audible sound. If, during the stillness of night, when lying in bed, with your cheek and ear upon the pillow, you set your teeth firmly, you will hear a continuous dull rumbling, caused evidently by the action of the masseter and the temporal muscles. Dr. Williams states that, with the help of a flexible stethoscope, one may hear the voluntary jerking contraction of his own abdominal muscles; the sound being as loud as that of the heart's systole, and very like it in character. That the systolic sound is essentially due to muscular contraction is proved by the fact, that when a heart is taken from the living thorax and placed upon a table, its contractions (which persist for a while) are still attended with a noise similar to the natural first sound, though weaker. Here there is neither collision of the blood, nor valvular re-action, nor impulse against the ribs, to render the experiment ambiguous.

If you acknowledge and comprehend this source of sound, you will understand without difficulty why the heart, *cæteris paribus*, is heard more clearly and extensively when its walls are thin, less widely and loudly when they are thick. "The transition," says Dr. Williams, "of a thick muscle from slack to tight can never be so complete and sudden as that of a thin one. Where there are many fibres they choke and muffle each other's vibrations; hence the sound is dull and prolonged, rather than loud and clear. If we observe the different sounds produced on tightening thin silk and thick baize or cloth, we find that the thinness of the silk gives a unity and briefness to the impulse which it receives, and the sound is short and loud: whilst in the baize the impulse is divided and prolonged in the complexity of the fibres, and the sound is dull and less brief: so, under similar circumstances, a thin ventricle will give a louder, sharper sound than a thick one."

The natural sounds which I have been describing are liable to be changed or modified by disease. Some of the modifications, indeed, I have adverted to as I went along. But others, of a more striking and extraordinary character, are yet to be explained. Either sound, or both, may be accompanied by a noise, which, in its commonest type, very closely resembles that produced by the blowing of a pair of bellows. Four persons out of five, I should think, if asked what this sound resembled, when they heard it accompanying each systolic movement of the heart, would say that it was exactly like the repeated blowing of bellows in an adjoining room. It is called accordingly, by the French, the "*bruit de soufflet*"; and in homely English, a *bellows sound*. This is the generic sound. It may be divided into species; but it is scarcely worth while so to divide it. We are only likely to confuse our notions by over-refinement. So I will only add, that when this bellows sound is very harsh or rough, persons will tell you that it is more like the noise of a rasp, or a file, or a saw: but all the while it is some kind of bellows sound. These sounds are often denominated *murmurs* also.

Now what is the cause of this singular deviation from the natural noises made by the successive contractions and relaxations of this hollow muscle, the heart? Why, I believe, the whole matter may thus be briefly expressed. The blowing sound may be occasioned by any change which alters the due proportion between the chambers of the heart, and their orifices of communication with each other, and with the blood vessels that respectively enter or leave them; it may also be occasioned by a preternatural velocity in the passage of the blood through a healthy and well adjusted heart. Dr. Elliotson, I think it is, who has offered this apposite illustration of the phenomenon. If the arches of a bridge have a certain relation to the quantity of water in the river, and to the force of the current, the water passes through them quietly, and without any noise. But if you diminish the size of the arches, the water will begin to go through them with an audible rushing or roaring sound; and the very same thing will happen if the arches remain unchanged in size, but the quantity of water in the river, and, therefore, its velocity and force, be augmented by heavy rains. So it is in the heart. If one of its orifices—say the aortic orifice—be narrowed, by disease of the valves, or in any other way, the blood will not, as before, glide through it smoothly and without noise, but will yield that sound which we call a bellows sound. So, also, if the orifice retain its natural dimensions, but the capacity of the cavity from which the blood is driven be augmented. Nay, the same blowing sound may be produced though the cavities and orifices be all healthy, and duly proportioned to each other, if the velocity of the circulating blood be increased beyond a certain measure. If you bear this explanation in mind, it will be found applicable, I think, to almost every case in which there is a blowing sound accompanying the *systole* of the organ. If, at the same time, the valves over which the blood must pass be rigid, or rough, or even loose and vibrating, these circumstances may modify the blowing sound, and render it louder, or hoarser than it would otherwise be, and justify the appellations of *bruit de scie*, and *bruit de rape*, with which you will find the French books, and many of our English also, full.

But this explanation applies to a *systolic* blowing sound only. What are we to say when there is a similar sound attending the diastolic movement of the heart? Why a diastolic bellows sound will mostly, if not always, be found to accompany and denote some organic disease affecting the valves of the heart. Thus, if the mitral valve be converted, as it often is, from a loose flapping valve into a bony and rigid unvarying chink, the blood which passes through it from the auricle to the ventricle, during the diastole, may cause a rushing or blowing sound. On the other hand, the reflux of blood through the unshut mitral orifice, during the ventricular contraction, may also be attended (though it seldom is) with an audible noise; and thus we have another source of a *systolic* murmur. Again, if the aortic valves are imperfect, as they often are, and do not effectually close that vessel, blood will regurgitate through them during the diastole, and produce a bellows sound. That this is the true explanation of the diastolic murmurs, I am convinced both by the observation of disease, and by the results of experiments on animals. In some of Dr. Hope's experiments, which he was good enough to allow me to witness, the short clack of the diastole was at first distinctly audible; then hooks were introduced, so as to prevent the perfect closure of the sigmoid valves during the diastole, and then the short smart clack was converted into a prolonged bellows murmur; and upon letting them go again, the short smart clack recurred. And I have repeatedly predicted, and found such disease of the sigmoid valves as prevented their proper function—that of shutting out the blood in the aorta from re-entering the ventricle—I have repeatedly predicted that morbid condition when I met with a certain kind of diastolic

bellows sound during life, and have found it, and justified the prediction after death.

[In another lecture, Dr. Watson makes some valuable observations on valvular disease, which we cannot help transcribing. It being ascertained by the *bellows* sound that valvular disease exists *somewhere*, can we fix on the particular valve implicated? This may often be done.]

When a bellows sound accompanies the systole, it must be caused by a current passing *out* of a ventricle. But serious disease of the valves, sufficient to occasion a murmur, on the right side of the heart, is very rare. In nineteen cases out of twenty valvular murmurs belong to the left side; so that practically the distinction lies, almost always between two orifices, the mitral and aortic, the inlet and the outlet of the left ventricle. The natural inlet has become an outlet also: or the natural outlet obstructed. Now if the sound be heard at the base of the heart, and along the track of the thoracic aorta, up towards the right clavicle, and even in the carotids; and if it be less audible towards the apex, and if the pulse be steady and regular, the mischief is seated in the semilunar *valves of the aorta*: there is some obstacle which produces a ripple in the onward stream of the blood.

On the other hand, if the pulse be irregular, and if the sound is heard better towards the apex of the organ, on the left, it is owing to regurgitation through a diseased *mitral* valve. Such regurgitation is often attended with a purring thrill.

When, what scarcely ever happens, the sound does result from injury of the semilunar valves of the pulmonary artery, it is heard plainest in the track of that vessel, up towards the *left* clavicle. So, also, a murmur produced by change in the tricuspid valve would be loudest towards the apex, on the right. The arterial pulse, for obvious reasons, is but little influenced by disease affecting the orifices of the right heart.

Again, if the morbid sound be diastolic, it accompanies the entrance of blood *into* a ventricle; and for similar reasons as before, the fault is most probably in the *left* ventricle. It may be owing to the direct, but impeded passage of the blood from the left auricle through a narrow mitral orifice: yet this *very* seldom occasions any audible noise. Or the diastolic murmur may proceed from regurgitation through the defective aortic valves: the natural outlet having become an inlet also: and this is exceedingly common. We attend, as before, to the situation and the track in which the sound is the loudest. We listen also for the smart clack of the natural second sound; and if it is not to be heard, or is very indistinct, we have, in that circumstance, corroborative evidence of an imperfect aortic floodgate. Moreover, we are again assisted by the pulse. The pulse of aortic regurgitation is very striking and peculiar: sudden, like the blow of a hammer, without any prolonged swell of the artery. It always reminds me of the well-known chemical toy, formed by including a small quantity of liquid in a glass tube, exhausted of air, and hermetically sealed. On reversing the tube, the liquid falls from one end of it to the other with a hard short knock, as if it were a mass of lead. The sensation given to the finger by the pulse, when there is much regurgitation through the aortic valves, is very similar to this. It is as if successive balls of blood were suddenly shot along under the finger. Dr Hope calls this pulse a *jerking* pulse; the pulse of unfilled arteries. And this abrupt pulse makes itself *visible* in the arteries: the wave of blood lifts, and moves, and sometimes contorts the vessel. When this kind of pulse occurs with a diastolic bellows-sound, heard in the track of the aorta, and the short clack of the second sound is absent or diminished, you may be quite sure that the aortic orifice is patulous during the diastole. The reflux of the blood, when the patency is great, is strong enough sometimes to produce a palpable shock or jog, called the diastolic

impulse. And this refilling of the ventricle from the artery may even provoke it to a supernumerary contraction.

DR. WATSON'S LECTURES.—*Medical Gazette, Jan. 7, and 21, 1842, p. 564, 646.*

2.—MEDICINAL PROPERTIES OF LEONTODON TARAXACUM.

By JOSEPH HOULTON, ESQ., F.L.S., &c.

[A very excellent paper on this plant was published in 1828, in the Medical and Surgical Journal, which we are glad to see once more before the public; as it is very probable that the different opinions respecting this useful plant are owing both to the improper mode in which it is prepared, and the indiscriminate way in which it is used. Mr. Houlton gives an account of the opinions of different eminent practitioners on the use of this medicine. Bergius considered it as aperient and diuretic, and useful in obstructions of the liver, &c. "The late Dr. Pemberton used it in chronic inflammation and incipient scirrhus of the liver, and in chronic derangement of the stomach, with great success." Dr. Wilson Philip says, "For the purpose of lessening the quantity of mercury, I have also combined with it such other means as tend to promote a regular and healthy secretion of bile. Of all the means which I have employed with this view, I have found none equal to dandelion." In his treatise on indigestion, he states, that "nitro-muriatic acid and the dandelion appear to be the best substitutes for mercury;* and that the dandelion appears to possess greater powers in this disease than are usually ascribed to it, but that it requires to be taken in very large doses. It is best adapted to those cases in which the bile is deficient or much disordered, while the power of the stomach is still considerable. In such cases, I have seen the patient restored by a strong decoction of dandelion, used for common drink, without the aid of other medicine. In addition to its effect on the liver, it tends to cool and consequently to allay the inflammatory diathesis, and often it excites both the bowels and the kidneys." There is very little correct information given respecting the time of gathering the root, either by the college or Dr. Paris in his Pharmacology. Mr. Houlton proceeds to say:]

My own observations perfectly coincide with those of Bergius. In the month of March, the juice obtained from the bruised root by pressure, is a thin, watery, and brownish fluid, weak in flavour; whilst that procured by the same process towards the end of summer is thick, opaque, and cream-colored; and in a few minutes after being expressed, it sets to a much more solid consistence, becoming as thick as common paste; it is very bitter and saponaceous. This is the season in which I have chosen it for medical purposes, and from many years of observation upon this plant of disputed virtues, I have been led to a conviction that it has medical powers, varying essentially according to the time of the year in which it is gathered and the mode in which it is prepared.

The extractum taraxaci, as commonly sold in the shops, I believe has but very little virtue. I have myself taken more than one ounce *per diem*, of a good looking article, without perceiving any sensible effect from it. If the juice be boiled, a very great change takes place in its sensible properties: it loses its bitter flavour, and forms a sweetish and ductile mass The same is observed in an extract formed from an evaporated decoction, as ordered by the College. I cannot speak with much confidence of the

* See an interesting article on the nitro-muriatic mixture in Retrospect, No. 1. Art. 34.

virtues of the decoction of the roots. My observations on it have not led to a satisfactory result. It is, in fact, no easy task to determine with accuracy the medicinal powers of the less energetic agents in the Materia Medica.

The most uniform and active preparation of this plant, I believe, may be obtained, by carefully evaporating spontaneously the expressed juice of the roots taken up in August and September. The extract formed in this manner I have found to be a valuable medicine, both in my own person and in practice, and have the concurrent testimony of practitioners of different departments of the profession who have used it with success. A physician, who had been long resident in India, observed to me, after taking some of the extract prepared as above stated, "I have never before found any benefit from taraxacum." It is a tenacious, saponaceous mass, not ductile; it keeps remarkably well if evaporated sufficiently. It is a valuable anodyne, deobstruent, slightly aperient and diuretic. In some cases of chronic diarrhœa it has soothed the bowels, and has given that relief which no other medicine was found to afford.

In cases of chronic disorder of the digestive organs, not produced by intemperance, its efficacy is frequently very decided. In visceral derangements from intemperance, I have not found it of much service, but in females, and other persons of sober habits and of studious and sedentary pursuits, it has been very beneficial, increasing the flow of bile, and allaying that uneasiness which the dyspeptic frequently experience about the hepatic region. If practitioners would employ the taraxacum in the form here proposed, I feel confident that a proper estimate of its virtues would be ascertained, and that the opinions of the filii Apollinis would, respecting this medicine, cease to be discordant.

Pharmaceutical Transactions, No. 8, p. 422.

[Mr. Houlton was accustomed for some time previous to the writing of the above paper in 1828, to prepare his extracts of dandelion and hemlock by spontaneous evaporation, and he has specimens of these extracts prepared in 1829 which are still in excellent condition. "The power of a current of dry air in inspissating vegetable and other fluids exposed to its influence is very great."]

Those who may feel disposed to make an extensive trial of the plan, I would advise to appropriate a room to the purpose, at the upper part of the house; to have stands made with shelves one above another, on these to place plates or table dishes, and pour into them the juice, the less at a time the quicker will be the entire process; when one dish is finished, it may be scraped out, or a fresh quantity of juice added. A small fire in the room will facilitate the process, and if the atmosphere is humid the fire is requisite, for the air must be dry in order to abstract the moisture of the juices. I believe the foregoing remarks are all that are required for the guidance of the practical pharmaceutist.

Ibid. No. 9, p. 491.

ON TARAXACINE.

M. Polex has extracted from the milky juice of the Leontodon Taraxacum, a crystallizable substance, which he has designated Taraxacine. The milky juice of the plant is boiled in distilled water, by which means the albumen is coagulated, carrying with it the resin, the fatty matter, and caoutchouc. The concentrated liquor is filtered, and allowed to evaporate spontaneously in a warm place. The Taraxacine crystallizes during this operation, and should be afterwards purified by repeated crystallizations from alcohol or water. It forms arborescent or star-shaped crystals. These melt readily, are not volatile, and have a bitter and rather acrid taste They are sparingly soluble in cold water, but dissolve abund-

antly in boiling water, in alcohol or ether. They dissolve in the concentrated acids without being decomposed. Taraxacine would be classed among the neutral vegetable principles, and it contains no azote.

When the albuminous precipitate which has been separated from the water is boiled in alcohol, a colourless substance, in the form of small cauliflower crystals is obtained on the evaporation of the alcohol. On being dried it falls into a powder, very fusible, but difficultly ignited. It is insoluble in water, but very soluble in alcohol and ether. The solution has an acid taste, and produces no precipitate with acetate of lead. It is insoluble in the caustic alkalies.—*Berzelius's Report on the Progress of Science.*

Ibid. No. 8, *p.* 425.

3.—ON PERCUSSION.

By John Hughes Bennett, M.D., Edinburgh, Lecturer on Clinical Medicine.

[Mediate percussion as employed by M. Piorry, is undoubtedly a more valuable means of diagnosis than is generally allowed. His experience, it is said, enables him to "map out, as it were, on the surface of the skin, with ink, the size and form of the heart, arch of the aorta, liver, spleen, kidney, &c.; and indicate to the eighth of an inch, the exact height of pleuritic effusion, or the margin of circumscribed pneumonic dulness." At first sight this partakes too much of the marvellous, but when we know the length of time he takes to percuss a single patient, (half an hour), we may suppose him to be a more expert operator than the generality of practitioners. The instruments he uses are, 1st. *The Hammer:* the head of which is made of steel, brass, or iron; a capsule is screwed to the end with a projecting disc or caoutchouc; the handle is made of wood, with depressions for the fingers and thumb. The head of the handle is not placed exactly at right angles with the handle, but has a slight obliquity upwards. "This is necessary, because in employing it the handle is almost certain to be somewhat elevated, and this slight obliquity even then allows the practitioner to strike the pleximeter perpendicularly. 2nd. *The Pleximeter:* made of ivory, wood, or metal, with a handle at each extremity, to enable the practitioner to take hold of it more readily.]

General rules to be followed in the practice of Mediate Percussion.—1. The pleximeter should be held by the projecting handles between the thumb and index finger of the left hand, and pressed firmly down upon the organ to be percussed. Much depends upon this rule being followed, as the sound and sense of resistance are considerably modified according to the pressure made by the pleximeter. A very easy experiment will prove this. If, for instance, the pleximeter be struck while it rests lightly on the abdomen over the umbilicus, and again when it is pressed firmly down amongst the viscera, the change in tone will be at once perceived. In the first case a sound is produced, from the muscles and integuments being alone influenced by the force of the blow; in the second case, a clear tympanitic sound is occasioned from the vibration of the walls of the intestine. In every instance, therefore, the pleximeter should be so held and pressed down, as to render it, so to speak, a part of the organ we wish to percuss.

2. Care must be taken to strike the pleximeter fairly and perpendicularly. Unless this be done, vibrations are communicated to textures in the neighbourhood of the organ to be percussed, and fallacious results are the consequence. If, in percussing the lungs, for example, the blow be

made obliquely, we obtain the dull sound produced by the rib, and I have seen considerable error in the diagnosis thus occasioned.

3. A strong or gentle stroke with the hammer will modify the tone and sense of resistance, inasmuch as the impulse may be communicated by one or the other to a deep seated or a superficial organ. Thus a gentle stroke will elicit a pulmonal tympanitic sound just below the fourth rib, where a thin layer of lung covers the liver, but a strong one will cause a jecorol parenchymatous sound. At the inferior margin of the liver, on the other hand, where a thin layer of the organ covers the intestines, the reverse of this takes place, a gentle stroke occasioning a dull, and a strong one a clear sound.

4. By withdrawing the hammer immediately after the blow, we are better able to judge of the sound; by allowing it to remain a moment, we can judge better of the sense of resistance.

5. The integuments should not be stretched over the part percussed, as when the stethoscope is employed, for an unnatural degree of resistance is thus communicated to the hand of the operator from the muscular tension. In every case, especially where the abdomen is examined, the integuments and superficial muscles should be rendered as flaccid as possible.

6. It is always best to percuss on the naked skin. It is not absolutely essential, however, and in cases where, from motives of delicacy, it is desirable that the chest or abdomen be not exposed, it only becomes necessary that the covering of linen or flannel be of equal thickness throughout, and not thrown into folds.

Special rules to be followed in percussing the chest.—Percussion of the lungs generally bears reference to a change in density, which is only to be detected by comparing the healthy with the morbid portions. The great practical rule to be followed, is to apply the pleximeter to both sides of the chest in succession, with the same firmness, exactly in the same situation, and let the blow with the hammer be given with the same force. Care must be taken that the position of both arms be alike, as the contraction of the pectoral muscles on one side more than on the other may induce error. In short, every circumstance must be the same before it is possible to determine in delicate cases, either from the tone or sense of resistance, whether change of density exist in the lungs. When circumscribed alterations are discovered in the pulmonary tissue, their limits may be marked out on the surface of the skin, in the manner previously indicated. In this way, I have frequently succeeded in determining with accuracy the size and form of circumscribed indurations, arising from partial pneumonia and pulmonary apoplexy. Under the clavicles, the pleximeter must be applied with great firmness. Inferiorly, a thin layer of lung lies over the superior surface of the liver; and to determine the exact place where its inferior border terminates, the blows with the hammer should be very slight. Posteriorly, also, the pleximeter must be firmly applied, and the force of the blows considerable: but they should decrease in force inferiorly, where a thin layer of lung descends over the liver much deeper than anteriorly.

In a healthy state, a distinct difference may be observed in the sonoriety of the lungs immediately after a full expiration and a full inspiration. This does not take place when the tissue becomes indurated from any cause; and thus we are furnished with a valuable diagnostic sign. Congestion of the lung, and pneumonia in its first stage, causes only slight dullness and increased resistance, which, however, are readily detected by the practised percussor. In the second and third stage of pneumonia, and in apoplexy of the lung, this dullness and resistance are well marked, and even an impression of hardness and solidity communicated to the

hand. When, however, the lung is studded with tubercles, the induration is most intense, and the greatest degree of resistance communicated.

Partial indurations from pneumonia, apoplexy, or tubercular deposition, may be detected by percussion, even when deep-seated and covered by healthy portions of the lungs · In this case, by pressing with the pleximeter, and striking lightly, a tympanitic sound only is heard; but by pressing the pleximeter down firmly, and striking with force, the dull sound may be elicited and circumscribed. When induration, however, exists inferiorly in those portions of the lungs which overlap the liver, it requires great practice to detect them with certainty. Caverns in the lungs, when large and filled with air, induce a tympanitic sound; but they are generally more or less full of viscous and fluid matters, and give rise to dullness.

Two or three ounces of fluid may be detected in the plural cavity, by causing the patient to sit up. It is readily distinguished posteriorly, from the dullness of the liver on the right side; on the left, however, the limit between it and the spleen is not so well marked. The height or level of the fluid is readily determined, and should be marked daily by a line made with nitrate of silver. If the effusion be only on one side, the peculiar humoral dullness is more easily detected. It disappears on placing the patient in such a position as will cause the fluid to accumulate in another part of the pleural cavity, when the space, which was previously dull, becomes clear. When the effusion entirely fills the pleural cavity, no limit of course can be detected; but, even then, the dullness is distinguished from that of the liver by the diminished feeling of resistance.

When air is effused into the pleura, the sound is like that of a drum, and readily detected.

London and Edinburgh Monthly Journal of Medical Science, Feb. 1842 *p.* 133.

4.—ON ASTHMA.

By Dr. Watson, Lecturer on the Practice of Medicine, King's College, London.

[Almost every practitioner must have witnessed an attack of Asthma. The symptoms are so well known that we need not here particularly relate them. The paroxysms will often occur for many nights in succession, and will then gradually subside. The strong desire for fresh air, and the impunity with which the patient will frequently rush to the open window, is a strong proof that it is the nervous system which is principally affected in these cases. It may be looked upon as essentially a spasmodic affection. The co-existence of spasm in other parts of the body, as in the muscles of the calves of the leg , &c., is another proof of the spasmodic nature of the affection. "Again, the rapidity with which the dysponœ comes on, and the suddenness with which it often abates, resemble the caprice of spasm. The enormous flatulence, and the secretion of hysterical urine, mark also the nervous character of the symptoms." Moreover, morbid appearances after death are often imperceptible. We may therefore conclude that the phenomena attending a fit of asthma are often the result of pure spasm.]

"But," says Dr. Watson, "if this be so, what are the muscles thus fixed in spasmodic contraction?"

You are doubtless aware that the air-tubes are encircled with a series of little fibres, or bundles of fibres. I have more than once shewn you these exaggerated by hypertrophy, in the large bronchi. They have been traced by Reissessen, in tubes of a very small diameter. Laennec states, that he had distinguished them in bronchial ramifications less than one line [illegible]

Now, supposing these circular fibres to be muscular, it becomes at once, and *a priori*, likely that they, no less than other muscles, should be liable to spasm. And the phenomena of asthma prove, to my mind, that they are so. I give you my opinion that they are muscular; but I am bound to tell you at the same time, that better anatomists than I am dispute this point, or doubt it. Analogy would say that the fibres, thus disposed, are slender muscles, like those which surround the intestines and urinary bladder. The microscope, I am told, scrutinizing their minute texture and appearance, asserts that they are not. But a test, less fallible than the microscope, has practically settled the question. Dr. Williams has recently demonstrated, by a set of ingenious and satisfactory experiments, that the lungs and air tubes are actually *contractile* to a very considerable degree, under electrical, chemical, and mechanical stimuli. The contractions take place steadily and deliberately; and are followed, as soon as the stimulus is withdrawn, by an equally gradual relaxation. This is very like tonic spasm. The contractions were rendered apparent by means of a bent glass tube, containing coloured liquid, and adapted to the windpipe of an animal just deprived of life. The column of liquid in the glass tube would of course be readily moveable by any contraction of the lungs and air tubes, causing pressure of the included air against it. In one of the experiments, "on passing a galvanic current from the margin of the lungs to the insertion of the tube in the trachea, the fluid rose quickly, but gradually, nearly two inches; sunk speedily on breaking the contact; again rose upon completing it; but fell slowly when the current was continued for some seconds," *i. e.*, when the irritability of the tissues was temporarily exhausted. Temporarily, I say, for on waiting two or three minutes between each application of the galvanism, the liquid was raised again and again for upwards of an hour; till, in fact, the organic life was extinct. Is not all this exceedingly like the behaviour of parts acknowledged to be muscular, under similar influences?

The phænomena were not occasioned by any general shrinking of all the pulmonary tissues. For when the lungs were cut across by sharp scissors, at right angles to the air tubes, and the open sections of these tubes were galvanized, they were *seen* to contract to one half of their former diameter; and even to become smaller than that. The contraction was the most distinct in the middle-sized tubes, being about the bigness of a straw: but it was sensible enough in the trachea, which was sometimes so far reduced in dimensions, that the ends of its cartilaginous rings came together.

A foreign experimenter, M. Valentin, carries us a step nearer to the full solution of this interesting question. He found that the rings of the trachea could be made visibly and distinctly to contract *by irritating the par vagum.*

Upon the whole, we may safely conclude that asthma is one of the spasmodic disorders of the excito-motory system of nerves. I believe, moreover, that, as in most other disorders of the same class, the spasm may be of centric, or of eccentric origin. In the eccentric form, the par vagum is doubtless the afferent nerve; and the impression it conveys to the medulla oblongata is reflected, through associated motor nerves, upon the bronchial muscles. The centric variety results from a similar impression originating in the nervous centres; which respond, mysteriously, to certain feelings of the mind.

[It has been stated by authors that in these cases no respiratory murmur, or very little, can be detected, and there is little doubt that notwithstanding the violent exertions of the patient to fill his chest, the expansion of the thorax is very limited. Laennec affirms, "that if a patient, after holding his breath nearly as long as he can, attempts a

quiet and gentle inspiration, the spasm may be overcome as if by surprise." This reminds us of the practice of Mr. G. Robinson, who has suggested a very simple and ingenious method of dilating the chest, in this and other spasmodic affections. He recommends that at the end of every inspiration, or during the expiration, the nostrils and mouth be kept forcibly closed for a very short time so as to prevent the act of expiration: the patient will thus be compelled to inspire for several times without expiring, and the consequence would be a forcible expansion of the thorax. We cannot speak from our own experience of the efficacy of this treatment, but we suspect the hint may be useful. See Med. Gazette, March 25, 1842, p. 31.]

Genuine spasmodic asthma is probably seldom found uncomplicated with organic alterations within the thorax, such as emphyema of the lungs, structural changes in the heart and great blood vessels; and it is very probable that "the first step towards the production of the spasm, consists in some altered condition of the *circulation* through the lungs. The chilliness of the surface, and the sensation of the want of air, make it likely that the blood accumulates in the lungs at those times; that there is congestion of the membrane as well as spasm of the circular fibres: and it would seem that in the humoral asthma, the congestion is relieved by a copious secretion of mucus; and that, with the congestion, the spasm also subsides and disappears."

[It is very remarkable what caprice is manifested by patients subject to this affection with respect to the localities which suit them. Speaking on this subject, Dr. Watson relates some remarkable facts which no doubt many other practitioners are acquainted with. He says:]

Another college acquaintance of mine, much tormented by asthma, is equally sensible to these inscrutable influences. Two inns in Cambridge are named respectively the Red Lion, and the Eagle He can sleep in one of them, and not in the other. Nay, he is thus variously affected within much narrower limits. He assures me that, when in Paris, he never escapes a fit of asthma if he attemps to sleep in the back part of Meurice's Hotel, and never suffers if he sleeps in the front room. Dover street suits him; Clarges street does not. He cannot rest in Manchester Square. This he attributes to its being built upon piles. Whether it really has such a foundation I do not know. And agencies still more slight and subtle are enough to set the springs of these seizures in motion. The mere absence of light, for instance. Laennec speaks of a man who invariably was roused from his sleep by a paroxysm of asthma, if his lamp was extinguished; or if his chamber door was shut. The consciousness that the customary preventive remedy was not at hand, has, apparently brought on a fit.

The dyspnœa may frequently be moderated or altogether assuaged by some form of narcotic. Now opium is the narcotic to which we must trust for the mitigation of spasm in general: and opium *is* of vast service in paroxysms of asthma. But there is also another of the vegetable narcotic substances which has obtained an especial repute for its effect in quieting the difficult breathing in these cases; and that is *stramonium*. This herb, the Datura stramonium, and other species of the same genus, the Datura ferox, had long been employed in India as a remedy for asthma. And when it was introduced into this country, about the beginning of the present century, it was cried up as a specific; and every body who called themselves asthmatic began to smoke stramonium: for that is the way in which it has been chiefly employed. The leaves and stalks are cut and put into a pipe, and smoked like tobacco. The smoke descends, of course, into the lungs: and when the saliva is swallowed, the remedy is introduced into the system in that way also.

Stramonium thus used, sometimes fails altogether: sometimes calms the paroxysm like a charm. The late Dr. Babington told me of a patient of his who had been greviously harrassed for a series of years, by asthma, but who declared to him, after he had made a fair trial of stramonium, that he no longer "cared a fig" for his asthma; which he could always stop in a moment. So a Mr. Sills, in a collection of communications relative to the Datura Stramonium, published in London in 1811, states, that he had been a great sufferer from asthma: that the fits usually continued, with short interruptions, from thirty-six hours to three days and nights successively: during which time, he had often, in the seeming agonies of death, given himself over and even wished for that termination of his miseries. But having at length discovered the virtues of stramonium, he used this strong language:—"In truth, the asthma is destroyed. I never experienced any ill effects whatever from the use of the remedy, and I would rather be without life than without stramonium."

I have found a mixture of opium and sulphuric ether of great service in tranquillizing the breathing of asthma. And in one case, which was under my care for some time, I made comparative observations respecting opium and stramonium. Both gave much relief; but stramonium the most, and the most certainly, *if it were applied in time*. This patient was in the habit of being roused from his sleep by the supervention of the paroxysm; and if he had the means of lighting his pipe *instantly*, he could stave the fit off. But when once it had attained its full intensity, he was *unable* to smoke. Under such circumstances, he would swallow the morphia and ether; and the effect of this depended also in a great measure upon the period at which it was taken. It would stop a commencing paroxysm; but had little influence over one that was fully formed.

It has been suggested, as one clue towards determining the particular kind of case to which the stramonium is applicable, that it succeeds if it produces *expectoration*; and not otherwise. But I doubt about this. The relief is sometimes too sudden to admit of its being so explained. Dr. Forbes quotes the following passage of a letter from an old and intelligent asthmatic to himself. "Smoking tobacco or stramonium is sure to give relief, if it produces expectoration; and it will generally do so if, the moment I awake (*i. e.* in the incipient paroxysm,) I begin to smoke, and continue to do so for three or four hours. Smoking, I am able to say, after fifteen years' practice, and suffering as much as mortal can suffer and not die, is the best remedy for asthma *if it can be relieved by expectoration*. I have been in the hands of all the doctors of the place for fifteen years; and still I say *smoke*."

The lobelia inflata has of late been much lauded for its beneficial operation upon dyspnœa of all kinds, and upon asthma in particular.

DR. WATSON'S LECTURES, *Medical Gazette, Feb.* 11, 1842, *p.* 770—774.

[With respect to Lobelia, we do think that Dr. Watson has under-rated its powers. If expectoration has the effect of thus relieving a fit of asthma, we are convinced there are few if any expectorants to equal the lobelia inflata, when given in sufficiently large doses, and which after long experience we never once found to be dangerous in its effects. We have mentioned in a former volume our formula, and will here repeat it.—Take 3 ounces of the lobelia inflata, and macerate it for 14 days in 3 pints of proof spirits. We give from 15 minims to half a drachm to an adult, and about 10 drops to an infant of a year old, every few hours; and if no sickness is produced, the dose may even be gradually increased. In the latter stages of Bronchitis especially, the combination of a few grains of carbonate of ammonia with each dose will be a valuable addition.]

5.—ON THE PREPARATIONS OF ANTIMONY.

By WILLIAM TYSON, Esq., Ashbourn, Derbyshire.

[The following practical remarks are made in a communication to the Pharmaceutical Society, on some of the preparations of antimony. It seems to be the general impression among medical men that most of these preparations are inert and nearly useless; and owing to the expense of Dr. James's fever powder, that preparation is seldom used. Mr. Tyson makes the following observations on this subject:]

After torturing antimony in all ways, and trying in the course of my practice all its forms, in all doses, in all febrile diseases, in patients of all ages and all temperaments, I became satisfied that we had only two preparations worthy of notice, and that these two were invaluable, viz: the tartrate and protoxide; and that the protoxide was the base of every useful preparation of antimony: proving the truth of the remark in Duncan's Edinburgh Dispensatory, that "oxide of antimony, with phosphate of lime, is one of the best antimonials we possess."

In comparing the effects of James's Powder with Pulvis Antimonialis, I sometimes found their virtues so alike in all their combinations as not to be distinguished. Sometimes I had occasion to prefer James's Powder to the Pulvis Antimonialis; at other times I had reason to give the Pulvis Antimonialis the preference, finding that in the James's Powder there was considerable variation.

Profiting by the idea set forth by Chenevix, I began with his preparation, which I soon found would not do; for I never was certain of the quantity of antimony. I then tried the oxide procured from emetic tartar; and mixing it with phosphate of lime, I found I had a very useful antimonial, but it did not quite answer my expectation. At length I made my experiments on the pulvis algarothi, as ordered by Duncan; and upon adding to it, while in a state of hydrate (that is, after the supernatant liquor had been poured off,) a solution of carbonate of ammonia, I was surprised to find a considerable effervescence, showing me that the beautiful white pulvis algarothi still contained a quantity of muriatic acid. I therefore continued to add solution of carbonate of ammonia, as long as any effervescence continued, and thereby deposited a straw-coloured protoxide, which I washed with distilled water upon a filter, and carefully dried.

The next thing I had to do, was to ascertain the effect of this; and I soon found that in this straw-coloured oxide I had a medicine of great power and efficacy, and that I could only give it in dose, from one-tenth of a grain to a grain: that a grain often vomits and purges: that half a grain combined with five grains of calomel, given at the commencement of all febrile diseases, and followed by the neutral salts, cut short those diseases; that smaller doses, given every six hours, after proper evacuants, proved a mild but certain sudorific, without the nausea which emetic tartar produces; that when combined with small doses of calomel, it proved a powerful alterative. Comparing these effects with the best samples of James's Powder, I found it easy to form a compound similar thereto; and by experience I found I had obtained a preparation far superior, as being always the same and always certain. The following No. 1, and No 2, are the forms in which I use it:

PULVIS ANTIMONIALIS.

No. 1. ℞ Protoxidi Antimonii, gr. ij.; Phosphatis Calcis, gr. xviij. Misce. Dose, from five to ten grains, if taken alone; but if combined with calomel, one grain to five grains.

Here we have a preparation totally soluble in dilute muriatic acid, ten grains containing one grain of protoxide of antimony.

No. 2. ℞ Protoxidi Antimonii, gr. ij.; Sulphatis Potassæ Phosphatis Calcis, aa. gr. ix. Misce. Dose the same.

Another form may be made in the same proportions, with calcined hartshorn shavins; but I prefer the above, as being entirely soluble in weak acids.

To the second form, you observe, I have added sulphas potassæ, for three simple reasons:

1st. Because, in the best analyses of James's Powder, sulphate of potass has been found; which probably arises from fusing together sulphuret of antimony and nitrate of potass.

2d. Because it is more economical, in saving my phosphate of lime, which being procured by solution, is troublesome to obtain, and expensive.

3d. The third reason is the most sound of all: it acts with more certainty, and gently, upon the secernments of the alimentary canal. The practitioner may use which form he pleases; but, after many years' experience, I prefer that with sulphas potassæ.

PROTOXYDUM ANTIMONII.

℞ Sulphureti Antimonii, ℥j.; Acidi Muriatici, ℥iv.; Acidi Nitrici, ℥ss. Misce.

Boil together for an hour, in a glass vessel; filter through paper; pour the filtered solution into water; pulvis algarothi, *i. e.* submuriate of antimony, is precipitated; pour off the supernatant liquor, and add to this precipitate a solution of the carbonate of ammonia, as long as any effervescence continues; wash upon a filter with distilled water, and dry by a gentle heat.

Here we have about five drachms of beautiful straw-coloured protoxide.

PHOSPHAS CALCIS.

℞ Cornu Usti (vel, Earth of bones), ℥iv.; Acidi Muriatici, ℥iv.; Aquæ Puræ, ℥x. Misce.

Let them stand together for several days, occasionally shaking the vessel; filter, and then add to the filtered liquor, Liquor Ammoniæ Puræ, ℥iv, vel. q. s. Wash upon a filter with distilled water, and dry.

When giving my Pulvis Antimonialis with calomel, every six hours, as an alterative, I have been occasionally obliged to reduce the dose to one grain of the compound, as mentioned before; for such is the deoxygenating power of this protoxide, and such is its affinity for acids, that when made into a pill with calomel, it decomposes the calomel, turns it black by taking up the muriatic acid, and will occasionally excite vomiting and diarrhœa. To obviate this inconvenience, I am now in the habit of giving it in combination with the blue pill. But my blue pill is not the blue pill of the Pharmacopœia, which under the best management, is a very uncertain preparation. I make pilula hydrargyri with the protoxide, and to complete the usefulness of this communication, I will give you a form of that also.

PILULA HYDRARGYRI PROTOXYDI.

℞ Hydrargyri Protoxydi, ℥j.; Confectionis Rosæ Gallicæ, ℥iij.; Pulvis Florum Anthemidis, ℥ss. M. s. a. et fiat Massa.

Here we have a preparation with only half the quantity of mercury, far superior to, and of the same colour as the blue pill; always the same in effect, and always certain, and made in a few minutes. I have been obliged to leave out half the quantity of mercury, in order to approximate it to the strength of the blue pill of the Pharmacopœia, finding that the whole quantity was too active. I use the powdered chamomile, instead of the

liquorice powder, as it keeps better, and sits more pleasantly upon the stomach: four grains and a half contain one of protoxide.

But the great secret that remains, is to procure the slate-coloured protoxide:—aqua calcis will not do, as it produces an ash colour, from a mixture of the muriate of lime:—liquor potassæ alone will not do, nor will liquor ammoniæ.

PROTOXYDUM HYDRARGYRI.

℞ Calomelanus, ℥iv.; Liquoris Potassæ Puræ, ℥iv. vel q. s. tere simul, et adde Liquoris Ammoniæ Puræ, ℥ss.; Aquæ Distillatæ, q s.

Wash well upon a filter; dry with a gentle heat, and use immediately.

The liquor potassæ produces a brownish-black powder, but there still remains a portion of submuriate of mercury undecomposed, which no addition of liq. potassæ will act upon, but by the addition of a small quantity of liq. ammoniæ, the slate-coloured protoxide is immediately produced, and the calomel completely decomposed.

HYDRARGYRUS CUM CRETA.

℞ Hydrargyri Protoxydi, p. j.; Cretæ P. p. ij. M.

Always the same, and always certain, a form which can never be produced by trituration.

UNGUENTUM HYDRARGYRI.

℞ Hydrargyri Protoxydi ℥ij.; Adipis Suillæ, ℔ j. M. s. a.

Equivalent for most purposes to the ung. hydr. fort. and a great saving of mercury. But, N.B., for this purpose, the protoxide should be obtained from the hydrargyrus muriatus mitis of the old Pharmacopœia, washing the precipitated submuriate while in a state of hydrate, as above. The colour completely resembles mercury, but for internal use, I prefer the decomposition from calomel.

Equal parts of protoxide of mercury and sulphur unite and form a fine black powder, similar to Æthiop's mineral, for which I originally intended it; but finding it too active for internal use, I now employ it as one of the best applications to chancre. It is a sulphuretted protoxide.

The above forms of Pulvis Antimonialis and Pilula Hydrargyri Protoxydi, I have now used upwards of 20 years; and such is my estimation of their value in the cure of diseases, that if I wished to leave a legacy to my country, I think I could not bequeath to her a greater boon. I have long found it unnecessary to use either James's Power or the Pulv. Antim. of the Pharmacopœia; and I am quite sure that when the above preparation is universally known, not one single grain of that uncertain, expensive, and empirical medicine, James's Powder, will ever again be sold. My great wish is to see the above formulæ introduced into the London Pharmacopœia.

I beg you to excuse my making use of the old terms, being of the old school I am rather attached to them.

Pharmaceutical Transactions, No. 3, p. 169.

6.—OPIUM IN PERITONITIS.

By Dr. Watson, Lecturer on Practice of Medicine, King's College, London.

[The pamphlet published by Mr. Bates, of Sudbury, some years ago, on the treatment of severe peritonitis by opium, made a strong impression on the minds of some medical men. He recommended opium both by the mouth and rectum; and insisted on a rigid adherence to the horizontal posture, till all pain had subsided. Mr. Bates's prac-

tice, however, may be considered as chiefly valuable in those severe cases where, either from ulceration or injury, perforation of the intestine has taken place, and which have been supposed to be almost invariably fatal. Some very striking cases, however, are related by Dr. W. Stokes in the second number of the Dublin Journal of Medical and Chemical Science, which strongly confirm the opinions of Mr. Bates in cases where perforation is supposed to have taken place. Dr. Stokes truly remarks, that in many of these cases the patient sinks with awful rapidity, and gives no time to pursue the active treatment which is adopted in other cases. Mercury and purgatives would in such cases probably increase the evil, by *tearing asunder* recent adhesions, and thereby preventing nature closing the communications between the mucous and peritoneal cavities. One of Dr. Stokes's cases is related as follows:]

The well-known symptoms of perforation of the intestines had existed for two days; the patient was apparently sinking, "his countenance was collapsed, anxious, and expressive of dreadful suffering; the extremities were cold, and the pulse hardly perceptible." The exhibition of sixty drops, in the twenty-four hours, of the preparation called the *black drop* was followed by the most signal improvement. The pulse regained its fullness and softness, the extremities became warm, and the countenance had lost the Hippocratic expression. The patient could bear pressure on the abdomen, which, the day before was exquisitely painful. The same treatment was continued for twenty-four hours longer; and by the end of that time every symptom of abdominal inflammation had completely subsided. 'The belly felt natural, there was no tenderness, the pulse was good, and the patient declared himself well." At this period of the case, Dr. Stokes omitted the opium, and gave the mildest possible saline laxative, as there had been no stool for 48 hours. Four evacuations took place, followed by the immediate return of the symptoms of peritonitis, under which the patient rapidly sunk.

"The intestines were everywhere agglutinated together, and adherent to the parietal peritoneum, except in the left iliac fossa, where a quantity of yellow puriform matter was collected. On detaching the caput coli from the peritoneum lining the right iliac fossa, a small perforation of the gut was discovered, by the escape of the contents of the intestines in a jet, &c. &c."

[Dr. Watson then makes the following practical remarks on this treatment:]

This example puts in a very strong light the *good* effects of *opium*; the *dangerous* effects of *purgatives*; and the *mode* in which recovery from these frightful accidents *may* sometimes be brought about.

Dr. Stokes gives another instance in which the patient *did* recover; after taking 105 grains of opium, besides what was administered in injections: and he alludes to a third case, in which the employment of opium was successful, when peritonitis had supervened upon the bursting of a hepatic abscess into the cavity of the abdomen.

Now I would earnestly recommend you to consider the expediency of applying the same principle of treatment, as an auxiliary, when the peritonitis does *not* grow out of previous organic disease: in all cases, in short, of *mere peritonitis*. The opium is not to supersede the bleeding, nor the mercury; it is not incompatible with either of those remedies; and it may, I believe, be most advantageously adopted in conjunction with them both.

I shall relate one example, which has lately occurred to me, of the successful use of opium in simple, but severe peritonitis. Several of you

saw this patient. His case is published in the appendix to Dr. Ferguson's volume.

H. Middlehurst, a tailor, 17 years old, was admitted into the Middlesex Hospital on the 17th of September; looking very ill, and complaining of pain in the epigastrium, with extreme tenderness over the whole abdomen, which was full and tense. He had been ill several days; had shivered in the onset; and had vomited frequently, up to the period of his admission. His bowels were confined; his tongue was dry and white.

Twelve leeches were placed upon his abdomen, and calomel, in five-grain doses, was given two or three times at intervals of four hours. An enema of warm water was injected, and retained. In the evening sixteen more leeches were applied, and a drachm of mercurial ointment was rubbed into his arm.

I first saw him on the 18th. His countenance was then pinched and anxious, and he lay moaning with pain; his knees being drawn up towards his belly, which was tense, and exquisitely sensible to pressure. He complained of nausea and retching, but had not vomited since his admission. His tongue was thickly coated; his pulse small, sharp, 108 in number. No permanent relief had been obtained from the leeches.

I directed immediate venesection; but not more than four ounces of blood could be got from the arm. Thirty fresh leeches were, therefore, put upon the abdomen, and afterwards a warm poultice to receive the blood from their bites. Three grains of calomel, and three of blue pill, were ordered to be given every four hours.

The last leeches mitigated the pain; but it returned in the evening with increased severity, and he vomited the pills. He appeared to be in great agony In this state the apothecary gave him twelve grains of calomel, and five grains of opium, in one dose. Soon after this he fell asleep; and slept during the greater part of the night. Next morning his countenance had lost, in a great degree, its expression of anxiety; his belly was less tender, but still tense; and his tongue cleaner.

Capiat pilulæ Saponis cum Opio gr. v. 8va. quaq. hora.

On the 20th the bowels were freely open, the dejections dark and watery; the abdomen was less tender. Pulse 114. He continued to take a grain of opium thrice daily till the 3d of October: the bowels being every day moved; the pulse and tongue gradually improving; and the abdomen painless even under firm pressure. On the 3d, as the bowels had not acted for the last two days, I discontinued the opium. On the 5th diarrhœa set in, with some renewed tenderness of the belly; and the pinched and anxious countenance returned. He had then an opiate enema; and resumed the opiate pills as before. Under this treatment he at length got well; and left the hospital on the 30th.

Medical Gazette, Feb. 25, 1842, *p.* 851.

7—GOLD LEAF AND IRON FILINGS, AS A GALVANIC ANTIDOTE TO CORROSIVE SUBLIMATE.

By T. H. Buckler, M.D., Baltimore.

The compounds of mercury being, without exception, more or less poisonous, it would seem that the only single method of rendering them innocuous is to revive the metallic mercury, and thus separate it from the agents with which it is combined. Of all the compounds of mercury, corrosive sublimate—*bichloride of mercury, oxymuriate, corrosive muriate*—is the one for which it is most desirable to procure a suitable antidote. This agent, possessing so wide a range of chemical affinities, has baffled chem-

ists for a long time in their efforts to decompose it in the stomach. The difficulty has arisen, of course, from the more or less poisonous nature of all its compounds. The inutility of seeking an antidote to an agent so deadly in its effects, may be urged by many, although it is not a more powerful irritant than oxalic acid, for which latter we have a ready and certain antidote. Even the observations which have been made on poisoning with prussic acid have been productive of practical advantage.

The importance of having a suitable antidote to corrosive sublimate is growing daily more apparent; for, setting aside the resorts to it for suicidal attempts, and its universal employment in destroying insects, it has been introduced of late in tanning, and to prevent the decay of timber; thus exposing numerous operatives to the accident of swallowing it. Even a familiar acquaintance with its deadly nature is not always a guarantee against the risk. Thenard, the chemist, while at lecture swallowed a concentrated solution, in place of water, but discovered his mistake before he had taken enough to prove fatal. A druggist of our city, inadvertently took from his counter a lump of the bichloride and swallowed it. He had eaten a full meal a short time before, and on taking an emetic of sulphate of zinc, the piece was instantly rejected. Numerous agents have been suggested to render this salt innocuous. The only antidotes now recognised are gluten and albumen; suggested by Taddei of Florence, and Orfila. Each promised to be perfect, when announced; but that of Orfila, for many reasons the best, is now the established antidote. Recent investigations have shown that albumen is not so certain in its action as was at first supposed, the precipitate which it forms being re-dissolved when the albumen exists in excess. We could not in the hurry of administering albumen give just so much as would neutralise the solution. Albumen acts by converting the bichloride into calomel, which renders the patient liable to be salivated; an evil in itself. Besides toxicologists number calomel amongst the compounds of mercury for which it is desirable to procure an antidote. Perhaps, even corrosive sublimate is not more active in its affinity for albumen than for the mucous membrane of the stomach.

[Dr. Buckler made the following experiments in the hope of discovering some antidote to mercury which might be more safely depended upon than albumen:]

The agents are iron-filings and gold-dust; and their action is referable solely to galvanism. Place a drop of solution of corrosive sublimate on a polished piece of gold or iron, the surface will remain bright for a long time, unless we bring the iron and gold in contact, through the solution, when both metals become instantly tarnished, the iron oxodised, and the gold coated with metallic quicksilver. If we drop into a solution of mercury a polished card-tooth, to which we have caused particles of gold to adhere, it will become tarnished the moment it comes in contact with the fluid, and a blobule of quicksilver, combined with the gold, may be seen hanging to it, as it falls to the bottom of the solution. If we throw gold dust into a solution of mercury, no action will take place until we add iron filings, when the metalic mercury is at once revived, and will be seen to precipitate, in a state of amalgam with the gold; at the same time the oxygen from the corrosive sublimate goes over to the iron, and forms an oxide of that metal with which the chloride combines, leaving a hydrochlorate of iron in solution. The products of this decomposition are wholly innocuous, the amalgam of the two metals being entirely inert, and the hydrochlorate of iron possessing only the properties of a slight tonic. Two grains of gold, and two of iron, are sufficient to decompose five grains of corrosive sublimate, so that no trace of mercury can be detected by the most delicate tests.

In order to insure a rapid decomposition of the salts of mercury, it is

important that both metals should be in the minutest state of division. The iron we used was reduced to almost an impalpable powder, by working a piece of steel with the finest file. The gold can be procured at all times in the state of bronze; but, as this is liable to impurities, it is better to have it powdered expressly, in the ordinary way, or by filing. Gold-leaf may also be used. Both metals should be so minutely divided, as to be capable of suspension for a short time, in any fluid, and form, when agitated in water, as it were, a gold-and-iron solution. For it is by the galvanic action excited at the moment that each particle of the one metal comes in contact with a particle of the other, that the corrosive fluid immediately surrounding them is decomposed; and hence, in order to render rapidly innocuous a considerable bulk of a solution of corrosive sublimate, it is important that both metals should be as widely and intimately diffused in it as possible.

This method applies to all the more soluble compounds of mercury. The deuto-iodide of mercury in water is instantly deprived of its bright vermilion lustre, on the addition of gold and iron, and a grey precipitate, composed of an insoluble iodate of iron, and an amalgam of gold and quicksilver, is the result. If we take the peroxide of mercury, (red precipitate, red oxide of mercury), and throw in gold and iron-filings, the oxygen of the precipitate instantly passes over to form a peroxide of iron, while the revived quicksilver amalgamates with the gold. So, likewise, the proto-nitrate and acetate of mercury, when similarly treated, form, severally, a nitrate and an acetate of iron, while the metallic mercury, being revived, combines, of course, with the gold.

The more insoluble compounds of mercury are not so readily decomposed by gold and iron; but they all of them act more slowly on animal tissues. These compounds are, cinnabar (*bisulphuret* or *vermilion*), turbith mineral (or *sub-bisulphate*) white precipitate (or *hydrargyrum ammoniacum* of the Pharmacopœia). Amongst them calomel may also be classed. Moreover, before any of the above named substances can prove deleterious, some soluble salt must be formed by the action of the stomach, which, when formed, instead of acting on the coats of the stomach, will be decomposed by the presence of gold and iron. We intended to make a number of experiments on animals, aided by Professor Fisher, but owing to the illness of that gentleman, our plan was defeated. However, to ascertain how far the proposed antidote could be depended on, we procured four half-grown rabbits, on which the following experiments were performed, assisted by Mr. Stewart, one of the ablest chemists of our city:—

Experiment 1st. Injected into the stomach one grain of the peroxide of mercury, in ℥ ii of water, and, shortly after, five grains of iron-filings, and the same quantity of gold-dust, in half an ounce of water. No pain or distress. Ate shortly after, and has not since appeared the least sick.

Experiment 2nd. Gave to another rabbit three grains of the deuto-iodide of mercury, in ℥ ss of water, and used gold-dust and iron-filings, of each six grains. Result, the same. The rabbit is now thriving.

Experiment 3d. Injected into the stomach three grains of the white oxide of mercury, and, some minutes after, administered four grains of finely-divided gold, and five of iron-filings. Perfectly well until the next day, when it seemed drooping. On the third day it ate, and is now perfectly well.

Experiment 4th. Injected into the stomach of the last rabbit, four grains of corrosive sublimate, in ℥ ss of water, and used as the antidote, four grains of gold-dust, and six of iron-filings, in ℥ ss of water. Ate shortly afterwards; no distress; now perfectly well.

In all, a small quantity of gum was added to the antidote, to suspend the metals. As gold and iron in minute division might themselves have

proved fatal in our first experiment. only one grain of the peroxide of mercury was given; a quantity insufficient to produce death, and yet calculated to cause great distress, or loss of appetite. It appeared to be conclusive from this trial, that gold and iron exert no deleterious effect, and also that the peroxide must have been decomposed. We believe that one grain of the deuto-iodide of mercury would be sufficient to kill a rabbit. Distress is often occasioned where it is administered medicinally, in doses of one eighth of a grain; and yet, in our second experiment, three grains were given, without sensible effect.

We have observed that gold and iron do not decompose the more insoluble compounds of mercury *out* of the stomach. The effect of those metals in our third experiment, in which three grains of the white oxide of mercury were given, may, however, be explained by the phenomena which occur in one method of making hydriodate of potash. Iodine and potash may remain in water without forming the above salt, unless a piece of iron be dropped in, when a play of affinities is at once aroused, and the iodine, leaving the iron, for which it has such a powerful affinity, untouched, combines instantly with the potash. Now a part analagous to that which the iron here plays is performed by the stomach, when the insoluble compounds of mercury are swallowed, and gold and iron are, at the same time, present; the stomach forms, out of the insoluble compound, a soluble salt, which instead of acting on the coats of that organ, is instantly decomposed by the antidote; the stomach, in every instance, being the medium, like the iron in the case of the iodine and potash, by which the affinities are brought into play.

Experiments have proved that a solution of six to twenty grains of corrosive sublimate in the stomach of a full grown rabbit very soon produces difficult respiration, convulsions, and death. In our fourth experiment, therefore, on a half grown rabbit, death must have ensued, unless the gold and iron had been given.

A solution of corrosive sublimate acts purely as an *irritant* or as a *caustic*, accordingly as a weak or a strong solution is swallowed. Between the irritant and the caustic strength of a mercurial solution, we deem it of the greatest importance to notice the difference. A solution, in its *caustic* strength, will produce an irrecoverable condition in a few minutes; whereas, a solution only *irritating* in its effect, may remain for a greater time without producing any fatal lesion. For example: we applied a saturated solution of corrosive sublimate to a blistered surface; it produced the most excruciating torment, and on examining the surface some hours after, the true skin had lost its vitality, in patches, which presented a white, polished, and shining appearance. At about the third day, all the parts which had assumed the character described, were found separated at their margins from the healthy skin, by a clearly defined fissure, and between the sixth and tenth days they came away leaving healthy ulcers, with perpendicular walls, corresponding exactly with the thickness of the skin in depth. These sores healed up in a few days by granulations from their bases. On the contrary, if we apply a weaker solution, (ten grains to the ounce) to a blistered surface, it produces an acute burning pain, and the true skin will afterwards be found inflamed, but no lesion will have taken place. With these facts before us, it would seem proper, in all cases where a saturated solution has been swallowed, to give a quantity of water sufficient to dilute the solution, and destroy its caustic action, which, if not instantly arrested, must render death inevitable. This gives time to procure the antidote, having in the after treatment simple inflammation of the mucous coat of the stomach to contend with. But the mercurial solution is not less fatal if time be lost in decomposing it. A gentleman, at one of our hotels, ordered a glass of cider, in swallowing the first mouthful of

which he was warned by the taste that he had taken something wrong: in a few minutes burning pain in the stomach and along the œsophagus ensued, and it was found that a saturated solution of corrosive sublimate, in whisky, had been taken. Albumen was freely administered, but death ensued on the third day. A servant, after using the solution in cleaning bedsteads, had heedlessly placed the bottle where the cider was kept. Now, in all such cases it would be proper to administer, *immediately* a draught of water sufficient to destroy the caustic properties, and then give the antidote. The proposed antidote should be kept by the druggists in papers, containing each,

Finely-divided Gold, Ditto Iron, aa, ℈ ii; Gum acacia, ʒ ss. M.

free from dampness, to prevent oxidation to the iron. In poisoning with any compound of mercury, one powder is to be stirred in a tumbler of water, and swallowed; if any of it is rejected, another powder should be given. If a solution of mercury were swallowed, we could not expect much benefit to arise from the use of gold and iron, in any other state than that of dust. In case of poisoning with the insoluble compounds of mercury, if the dust cannot be obtained, then use the metals in the form of beads, fine chains, or any other shape in which they can be swallowed, for we believe that they would decompose the soluble salt with as much rapidity, at least, as it could be formed in the stomach.

We invite the attention of others to the subject; intending, however, ourselves, to renew the experiments already made.

Lancet, Jan. 22, 1842, *p.* 569.

[Mr. Barry, in the Pharmaceutical Transactions, makes the following comments on this paper of Dr. Buckler's.]

We shall better appreciate the merits of this proposal of Dr. Buckler, by recollecting that the iron, *per se*, would, at least in the first instance, bring the sublimate into the state of calomel; and that too, but slowly. On the other hand, the effect of gold *in contact* with iron, is not alone to hasten decomposition, but to make it complete, by evolving *metallic* mercury in combination as a harmless amalgam. This result, however, belongs solely to the thin stratum of fluid immediately enveloping the two contiguous particles of iron and gold. It is therefore essential that these metals should be in a state of division so exceedingly minute as to remain a short time in *suspension throughout the whole fluid of the stomach*. Every drop of that fluid must be made to contain a multitude of these particles, and yet the entire weight administered be very small. Is this object to be attained?

From experiments not yet completed, I entertain no doubt that this question may be answered in the affirmative; not as regards the division of the *gold*—because it is known to be perfectly easy; but as regards the *iron*, which I have found it to be a difficult task to sufficiently disintegrate. Dr. B. recommends "working a piece of *steel* with the finest file" till there is obtained, in adequate quantity, an "almost impalpable powder." I should be wanting in candour towards the author, were I to commend his process, as much as I feel at liberty to commend his principle. *Filing*, in this case, is almost useless, because the minutest particles are dispersed, and the remainder are found too large for suspension, even for the few moments necessary. I am enabled to state this from having, not only employed a very careful person, but watched his progress. There is another inconvenience, which, however, could be overcome; the particles of steel so procured, are sure partly to float (as if they were greasy), and to resist admixture with water. It was probably in order to alleviate both these objections that the author proposed employing a small portion of mucilage. But mucilage would operate to *stagnate* the fluid, which ought, on the con

trary, to be attenuated, so as to facilitate its circulation among the particles of metal.

There is another desideratum which Mr. B.'s process has not secured. He proposes to complete the galvanic circuit by the (accidental) *juxta-position* of the respective particles of iron and gold. The necessity for exciting galvanic action is manifest, from the consideration that *isolated* portions of iron acting, will, *pro tanto*, retard the desired species of decomposition, by generating calomel; which cannot be reduced to the metallic state so rapidly as sublimate. The desideratum then, to which I refer, is the production of the particles of iron, each in a state *partly gilt*. This remains to be accomplished, and I am directing my attention to it.

Pharmaceutical Transactions, No. 6, p. 306.

8.—ON INCIPIENT CANCER OF THE WOMB.

By Dr. Montgomery, A.M., Professor of Midwifery to the King and Queen's College of Physicians in Ireland.

[Dr. Montgomery is of opinion that there is a stage of cancer of the womb which is remediable, and the germs of which may be destroyed, a stage which precedes the two which are usually described by authors; "and the reason why this stage is not more generally recognised, is, that the accompanying symptoms are frequently so light as to attract very little the attention of the patient, and thus are suffered to remain without treatment, until a profuse hæmorrhage or some violent fit of pain sounds the alarm, and then, on examination, the disease is found to have passed into its second stage; the surrounding tissues are indurated and consolidated with the organ concerned." There is no doubt that many of these cases are entirely overlooked by practitioners, simply from not properly examining the vagina.]

The margin of the os uteri is found hard, and often slightly fissured, and projects more than usual, or is natural, into the vagina, and is irregular in its form.

In the situation of the muciparous glands, there are felt several small, hard, and distinctly defined projections, almost like grains of shot, or gravel, under the mucous membrane. Pressure on these, with the point of the finger, gives pain, and the patient often complains that it makes her stomach feel sick.

The cervix is, in most instances, slightly enlarged and harder than it ought to be. The circumference of the os uteri, especially between the projecting grandulæ, feels turgid, and to the eye presents a deep crimson colour, while the projecting points have sometimes a blueish hue.

In two cases of women who died, one of fever, and the other of pneumonia, in a more advanced stage of this condition of the os uteri, the substance of the uterus was found considerably increased in size and thickness, and was intensely vascular.

There is no thickening, or other alteration of structure in any part of the vagina, at its conjunction with which, the cervix uteri moves freely; nor is there any consolidation of the uterus with the neighbouring contents of the pelvis; in fact, the morbid organic change appears to be, at first, entirely confined to the os uteri, and lower portion of the cervix.

This stage of the affection is, in many instances, *very slow*, lasting sometimes *for years* before the second and hopeless stage is established; during this time the patient experiences only comparatively slight, and transient attacks of pain, or perhaps only sensations of uneasiness, referred often to the situation of one or other of the ovaries, or about the ●

uteri, with anomalous tingling along the front and inside of the thighs; these last for a few hours, or a day or two, and then disappear, perhaps for weeks, but again and again return in the same situation, and for a long time, are not increased in severity; the patient finds that sexual intercourse, now, occasionally, causes her pain, which she ascribes to some deep-seated part being touched, and the act is followed by an appearance of blood; she is, also, often troubled with slight irritability of the bladder; but the appetite, digestion, and sleep, may for a long time continue good, and the pulse generally gives no indication of the existing disease, or its changes; an observation which will be found applicable to many uterine affections of a very grave character; in short, the general health may long remain quite undisturbed, nor has the patient, in many instances, the slightest suspicion that there is anything seriously wrong with her, nor thinks of seeking for medical aid, until she is induced to do so by the solicitations of her husband, or some anxious friend who has become, as she thinks, unreasonably alarmed about her state.

Pathology.—Sufficient observation has fully satisfied me, that, in the great majority of instances, the first discoverable morbid change which is the forerunner of cancerous affections of the uterus, takes place in, and around the muciparous glandulæ, or vesicles, sometimes called ova nabothi, which exist in such numbers, in the cervix and margin of the os uteri; (see my work on the Signs of Pregnancy, &c., pl. ix., fig. 2.) these become indurated by the deposition of scirrhous matter around them, and by the thickening of their coats; in consequence of which they feel *at first* almost like grains of shot or gravel under the mucous membrane, afterwards, when they have acquired greater volume by further increase of the morbid action, they give to the part the unequal, bumpy, or knobbed condition like the ends of one's fingers drawn close together. When this *second stage* (usually described by writers as the first) is established, all means hitherto devised have failed in producing any permanent beneficial effect.

Diagnosis.—The only affection of the uterus, for which this disease could be mistaken, and that only by carelessness, is the irritable uterus; from which, however, it is essentially different; inasmuch as it is accompanied by, and tends to produce still further change in the structure of the organ; which, although unduly sensitive under examination, is not the seat of the *exquisite* tenderness and pain observed in irritable uterus; from which, it also differs in having the increase of volume of the parts affected well marked, and constant, until removed by treatment, and in the existence of the other organic alterations already enumerated, as well as in the different result of the affection. From the second, or fully formed stage of cancer uteri, any one accustomed to examine the organ must at once distinguish it.

Treatment.—In almost every instance, the treatment should be begun by *the local abstraction of blood*, either by cupping, or by leeches applied directly to the os uteri, or as near as possible to the organ; and their application will, in most cases, require to be frequently repeated, and should be accompanied by the free use of anodyne fomentations. With regard to *venesection*, although it may be desirable to practice it under particular circumstances, it is not, in general, required; and I would say, that the case in which it is called for, should be regarded as an exception in the plan of treatment generally the most suitable.

Except there be something specially to forbid its use, *mercury* should be given, in some form, so as to bring the system very gently, but decidedly, under its influence; for which purpose it may be combined with iodine in very minute proportions, with camphor, opium, hyoscyamus, or hemlock; and occasionally by friction, especially where there exists evidence of inflammatory action in the iliac hollow, as already adverted to.

Afterwards, *iodine* or *hydriodate of potash* may be used both internally and externally; and *iron* will be found a most beneficial and powerful agent, especially in the form of the saccharine carbonate, or the carbonate given in the nascent state.

The *iodide of iron*, which combines, to a certain degree, the powers of both remedies, may also be used with advantage in most cases, and will be best administered in the form of *Dupasquier's syrup*, which is now prepared of different strengths, by our chemists and apothecaries.

Arsenic has received the testimony of many able practitioners in its favour, as an agent capable of giving great relief in these affections; and I can add mine to the same effect, having obtained marked benefit from its use, especially when combined with anodynes, even in advanced states of this disease: of *iodide of arsenic* I cannot speak from experience; but, I think that, both from the nature of the compound, and, still more, from the success which appears to have attended its administration in cancerous affections by Dr. A. T. Thompson and Dr. Crane, of Canterbury, we are justified in expecting that it will prove a useful remedy in such diseases.

Counter-irritation is an agent of great influence in this complaint, and may be established in a variety of ways, which it is unnecessary to enumerate; but a very effectual mode is, by making a small blister over different parts, in succession, and keeping it discharging freely for several days, by the application of the French dressing, or Albespeyer's papers.

The *warm bath* and the warm *hip bath* are means of great value throughout the treatment of this affection; and their effect in soothing the uterine irritation may be much promoted, by admitting the warm water into contact with the internal surface of the vagina and os uteri, which may be accomplished, without difficulty, by introducing into the vagina one of Lassaigne's speculums, which are made of wire-gauze coated over with caoutchouc; or a small plain metal speculum, with perforations in its sides, will answer the purpose extremely well; and the patient can apply the instrument for herself, better, indeed, than any one else could. I may observe, that where warm baths are used in the treatment of amenorrhœa, this mode of managing them may be adopted, with great advantage.

After the removal of the congestion and organic changes from the os uteri, there remains, occasionally, a sensitiveness of the part, which causes the patient much discomfort, and which will be best relieved by the use of the bath, as above directed; conjoined with anodyne applications to the part, or the nitrate of silver in solution; the best mode of applying which, is by means of a bent glass tube, of about an inch in diameter, which the patient can introduce and manage for herself; all that is necessary is that she should lie on her back, and introduce the tube as far as its curvature, and then pour into the upper end the medicated solution, which will immediately pass to the os uteri, and can be retained there as long as necessary, the tube filling the vagina sufficiently to prevent its flowing away, which is a great advantage above all other methods with which I am acquainted, for applying lotions to this part.*

The patient should be strictly enjoined to avoid every thing that could stimulate the uterus, such as riding on horseback, &c.; but, especially, she should refrain from sexual intercourse. I need scarcely add, that the greatest care and moderation will be essentially requisite in the quality and quantity of the patient's diet. Wine, if used at all, should be of a very mild kind, and very sparingly taken; and the same rule should apply to

* I have used these tubes, both strait and curved, to suit different purposes, with my patients, for some years, and find them greatly superior to every kind of syringe, or other contrivance for making applications to the os uteri. I wish to suggest, that if the fluid is to be used at an increased temperature, a metal tube should be substituted for a glass one, which would be in danger of cracking, and perhaps injuring the patient.

malt drinks; the stronger kinds of ale and porter should be altogether prohibited.

No circumstance connected with the treatment of this affection requires more scrupulous attention, than the regulation of the patient's habits and mode of living; indeed, if this be not very carefully managed, all other measures will most probably be defeated.

This is, perhaps, of all others, the case, in which extirpation of the part might be expected to be successful; but I could not recommend it, because the operation is a very formidable one, and I know the affections to be curable, without it; besides, we have no means of accurately determining whether the taint is really thus isolated, or whether other parts are not already contaminated; so that, we run the chance of only obtaining that equivocal triumph, in which an operation is blazoned forth, as being crowned with brilliant success, while the patient dies of the disease for which it was performed.

Dublin Journal of Medical Science, Jan. 1842, *p.* 436–444.

9.—ON CHOREA.

By B. G. Babington, M. D. F.R.S., &c.

Dr. Babington remarks that,—previous to Dr. Hall's researches, the proximate cause of chorea was supposed to consist in debility, and some degree of irritation of the organic class of nerves; extending more or less to those of volition; and occasioning morbid susceptibility of the nervous system generally, with diminution of power, increased mobility, and irregular actions of the muscular system, particularly of those muscles supplied with the nerves principally affected.

Let us contrast this loose and general account of the pathology of chorea with that offered by Dr. Marshall Hall. He first maintains, as principles of physiology, that beside the contractile power in muscular fibre itself, there are three causes of muscular motion:—1st, Volition; the seat of which is the cerebrum, and the action of which is conveyed along the fibres which decussate in the medulla oblongata. 2dly, The direct and reflex action of the excito-motory system. And 3dly, Emotion.—He affirms, that the seat of emotion is below that of volition; is in the medulla oblongata: and acts along fibres which probably do not decussate; and, that the seat of the excito-motory system is in the spinal cord. He further remarks, that volition has an aim or object; while emotion, and the excito-motory function (or *vis nervosa* of Haller), are aimless on the part of the individual, and frequently opposed to volition.

According to Dr. Hall's earlier papers, chorea was considered an affection of the spinal system; affording an example of the want of harmony between the cerebral and the true spinal acts. The volition was affirmed to be normal; but the true spinal act to be abnormel, for want of a precise harmony between the two. This view, however, did not account for the absence of chorea during sleep: for it is one characteristic of the excito-motory function, that it goes on during sleep; so that a disease asserted to be dependent on morbid condition of that function, ought to be at least as manifest during sleep—when volition, as a disturbing cause, is abstracted as in the waking state: but the contrary is notoriously the fact; all the symptoms of chorea ceasing as soon as the consciousness of the waking state is suspended. It was necessary, therefore, to seek further for an explanation of this circumstance. "It is well known." says Dr. M. Hall, "that the irregular movements in chorea, and in incipient paralysis agitans subside during sleep I was long perplexed to account for this fact. It was only by observing that these movements subside during quiet sleep

only, and return during the agitation of dreaming, that I perceived that it is not sleep, but the absence of emotion, to which this effect is to be ascribed;—dreams during sleep having the same effect as emotion in our waking hours." This, then, I take to be his view of the pathology of chorea—that it is a morbid condition of the organ of emotion, which has its seat in the medulla oblongata, and is wholly independent either of the brain or of the ganglionic system.

Dr. Babington adds:—

"I should define chorea to be a disease characterized by irregular uncontrollable contractions of the voluntary muscles, alternating with their atony, and occurring without pain. I have used the word 'contractions,' and have included the atony of the muscles in this definition, because the movements in this disease appear to me to differ essentially from those of convulsions and epilepsy in this,—that the stimulus, whatever be its nature, which excites either the whole or a portion of the voluntary muscles to involuntary action, is not more violent in degree than the normal stimulus of the will, or of the excito-motory system; so that movements almost incessant indeed, but not exaggerated like spasms, are the result. It will illustrate my meaning, to state, that a person in sound health could, at any one moment, perfectly imitate, by an exercise of the will, every movement which he would involuntarily perform if he were the subject of the most aggravated form of pure chorea. Again, there is another circumstance which seems to me to attend the movements in chorea, and which may furnish ground of distinction between this and truly spasmodic seizures. The nerves, in their normal state, are always exercising a certain amount of influence over the muscles; so that where there is antagonism of forces, it is only necessary to remove the one opponent in order to demonstrate that the other is in a state of activity. This being the healthy condition, we have a right to consider the diminution of this activity as a morbid state; for although, from the striking effect which a morbid exaltation of muscular force produces, spasm is more directly brought to the cognisance of our senses than atony, still the latter is no less a really morbid condition than the former. I venture, then, to express my belief, that while, in true convulsions, the muscles, after having been thrown into a spasmodic state, do only return to the normal condition: in chorea, on the contrary, a further diminution of nervous influence occurs; so that the muscles become, in all marked cases, entirely passive and inert in the intervals between their irregular and involuntary actions. This is manifest, from the manner in which the limbs drop from the position into which they have been thus thrown; in which the head, after being tossed to and fro, will fall passively on the shoulders, and from the incapability on the part of the patient to hold anything in his grasp."

Dr. Babington offers a good account of the history and symptoms of chorea. And his allusion to the exciting causes of the complaint is lucid. If we affirm, he says, that the primary seat of chorea is in the medulla oblongata and spinal marrow, we must at the same time admit that this may be affected through the medium of its connexion with the sensorium on the one hand, and with the ganglionic system on the other. Its exciting causes will thus naturally divide themselves into three kinds; namely, 1st, Those which primitively affect the spinal system: 2dly, Those which secondarily affect it through the sensorium: 3dly, Through the ganglionic system. Blows on the head or neck, causing a *contre-coup*, which shall either structurally injure or functionally disorder the medulla, occasionally gives rise to chorea, not only at the time of their occurrence, but at uncertain periods afterwards: so also injury of the spinal marrow, by direct compression; alteration of its structure by rheumatism; and perhaps its irritation, by certain injurious practices;—the irritation of the incident

nerves, by a wound, by the poison of mercury, of lead, of strichnine, and by skin diseases. Of those causes which act primarily on the sensorium, by far the most frequent is an affection of the mind, arising from any of the depressing passions; as from sudden fear, from horror, from grief. Perhaps, however, these causes should be rather considered as of the first kind, if the theory be adopted, that the seat of emotion is in the upper part of the spinal cord, and not in the brain. Other causes more evidently first affect the sensorium; as, organic diseases of the brain, fever, epilepsy, hysteria, and mental alienation. Of those causes which act primarily on the ganglionic system, may be enumerated, costiveness of bowels, with morbid accumulations in them, and worms of different kinds. Rheumatism also, when it affects the heart and pericardium, may give rise to the disease, through the irritation of the plexus and ganglia, which so entirely surround that organ, and the origin of its great vessels: and irregular menstruation may produce a like effect, through the lumber plexus.

In a note we find the connexion between chorea and cardiac affections noticed still more pointedly. We transcribe the note in question.

"Out of a very large number of cases of chorea, seen lately by my friend and colleague, Dr. Addison, to whom I am indebted for having first directed my attention to this point, only two have been without a decided mitral or left ventricular bruit. In these two there was diseased heart; and in one case, examined after death, there was found old thickening of the mitral valve, with very recent pericarditis. Should further investigation prove chorea to be more immediately dependent on disease of the heart or pericardium, than has been hitherto supposed, the merit of the discovery will certainly be due to Dr. Addison." But we cannot help suspecting it will turn out otherwise.

Dr. Babington relates twenty-five cases, none of which require notice. The gist of the matter—the treatment—is thus handled.

He has not found any one remedy so superior in efficacy to the rest, as to induce him to abandon all others in its favour. On the contrary, the most powerful will sometimes disappoint our expectations; and we are then obliged to try one after another; and in the end, perhaps, remain uncertain, should the patient do well, whether the recovery is to be attributed to the means employed, or to the power of nature herself. Dr. Babington, therefore, treats the cases *rationally*

When there is evidence of congestion in the head, marked by giddiness and headache, occurring in subjects of a full habit and florid countenance, the treatment should be commenced with moderate depletion: which however, it would be more advisable to effect by leeches and cupping-glasses, than by the use of the lancet; and these should be applied to the nape of the neck, or behind the ears. Attention to the state of the bowels is, of course, in all cases, indispensible, even though the general treatment should be of a tonic character: but wherever there is reason to suspect that the symptoms are dependent on a constipated or loaded state of the bowels, or their irritation from the existence of unwholesome aliment, purgatives should be administered freely and frequently; and those of the more active kind should be employed. As this state of the *primæ viæ* exists in a great many cases, it is not difficult to understand why the purgative plan of treatment has proved frequently successful. Where worms, and especially tænia, cause the irritation, turpentine, and other anthelmintics, will prove most successful; and these cases also will swell the list of those who will be benefited by brisk and repeated purgatives.

Where there is reason to believe that the disease is connected with the state of the uterus, occuring about the period when the catamenia should appear, and combined with symptoms of hysteria, those remedies will naturally suggest themselves which have a special power in causing this dis-

charge, in obviating its irregularity, and in correcting its unhealthy character. The state of the teeth should be looked to about the period of the second dentition; and even on the cutting of the dentes sapientiæ, as a probable source of irritation;—and the gums should be lanced, or the decayed roots of the first set removed, according to circumstances.

Where the disease has arisen from a metastatis of rheumatism to the fibrous structure of the theca of the cord, it ought to be treated in the same way as pericarditis,—by depletion, general or local, antiphlogistics, and the employment of mercury, carried to slight salivation.

The following are Dr. Babington's opinions on the subject and comparative value of tonics:

"In a very numerous class of cases which owe their origin to sudden emotion, producing a strong impression upon a weak and excitable nervous system, the patient will be most benefited by all those remedies which improve the general health, and give vigour and tone to the nervous and muscular systems. The most severe case I ever saw recover, was cured in a few days by divided doses of port wine, in which enough of sliced rhubarb was steeped to render it gently aperient. Various vegetable tonics have had their advocates; but bark and sulphate of quinine may be taken to represent them all. The metallic salts and oxides have, however, of late years, been generally preferred. Sesqui-oxide and sulphate of iron, sulphate of copper, oxide and sulphate of zinc, nitrate of silver, and arsenite of potassa, have all been tried, and found, in different hands, to succeed. The testimonies in favour of sesqui-oxide of iron in large doses, and of sulphate of zinc, are perhaps the strongest. On the latter remedy I have generally, in the cases which I have just alluded to, most relied: and my expectations regarding its efficacy have seldom been disappointed. I have found it necessary to administer much larger doses, however, than are usually given; good effects seldom being perceptible until twelve or fourteen grains are taken three times a-day. By gradually increasing the quantity a single grain at a time, even much larger doses than this may generally be employed, without exciting sickness, and with the best effect. I have known half-drachm doses, thrice a-day, taken for several weeks in succession.

Sulphate of zinc, however, will not be borne by all stomachs, even in small doses; and we are then obliged to give up its employment, long before we have attained even the minimum dose requisite to give it a fair chance of controlling the disease. In such cases, I generally have recourse to the liquor potassæ arsenitis, cautiously increased in its dose from three to twelve or fifteen minims, according to the age and strength of the patient, and other concomitant circumstances. I believe this the most powerful remedy of them all—at least, I have found it so, in several obstinate cases; but I am deterred from employing it where other remedies will succeed, from the sickness and griping pains which it is apt to cause, and from some fear that the constitution may be permanently injured by its continued employment.

As an external remedy, the shower-bath may be very often advantageously used, in conjunction with internal means; and I have even tested its efficacy with success, when used alone. In St. Petersburgh, I am informed by a Russian physician, a new practice has, within the last year, been adopted with eminent success in obstinate cases of chorea. The patient is placed in a bath as hot as he can bear it; kept there for half an hour; and, when thus thrown into the most profuse perspiration, is suddenly plunged into cold water. I have not ventured to try this method of producing a sudden shock; or rather, I should say, that opportunity has been wanting, since I have been made acquainted with it; but in an extreme

case, and when other remedies had failed, I should, on the testimony I have received in its favour, not hesitate to employ it.

Medico-Chirurgical Review, Jan. 1842, *p.* 251. (*From Guy's Hospital Reports. No.* 13.)

10.—TREATMENT ON SCIATICA AND OTHER FORMS OF NEURALGIA BY TURPENTINE.

By M. Martinet.

The essential oil of turpentine presents great differences in its mode of action, according to the dose in which it is employed. It also gives rise to certain peculiar phenomena, when administered in sciatica, crural and brachial neuralgia; and these phenomena, as we shall have to remark by and bye, are only observable in the affected member. Scruple doses, given in a convenient form, are speedily followed by these effects. In the majority of cases, the back part of the mouth, and the upper part of the œsophagus become the seat of a lively heat, which is rapidly communicated to the other portions of the intestinal canal. At the end of a quarter, or, at most, half an hour, this heat spreads over the loins, and the whole extent of the affected limbs, especially in the course of the painful nerves. In some individuals, a general sweating is produced, and in such cases the transpiration from the affected limb is not always greater than that from the opposite limb. The other phenomena observed from such a dose of the oil of turpentine, as that above mentioned, are, want of appetite, belching, a feeling of weight in the stomach, difficult digestion, diarrhœa, and, rarely, an itching over the whole body. There is sometimes an increase in the secretion of urine, which, when this is the case, acquires a violet odour; and, last of all, there is dysuria, accompanied with more or less heat: but these last mentioned effects are far from being constant, and, even when they do occur, continue, at most, only for a few days.

The stimulant action of the oil is increased in proportion to the dose. Taken in a dose of from two drachms to an ounce, it produces nausea, vomiting, intestinal heat, tenesmus, and in certain cases, slight gastro-enteritis, accompanied by fever. The urinary passages generally participate in the stimulating effect produced upon the intestinal tube, and there are symptoms of irritation of the kidneys, more or less acute. Frequently, a feeling of heat and pain passes along the ureters to the bladder and urethra, and along with these symptoms, there is generally dysuria, or even strangury. In some subjects, we also see mucous discharges following the inconsiderate administration of this substance: but it must be remarked, that such untoward occurrences never happen in consequence of its use in moderate doses; and that they have only been observed in cases of epilepsy, tænia, and other severe and rebellious affections, requiring a dose of one or two ounces without any vehicle. It has several times happened in my own practice, that patients have taken two drachms at once, without experiencing more than some colicky pains, vomiting, burning sensation in the stomach, looseness in the bowels, and in rare instances, strangury; but all these symptoms of irritation were slight, and so transient as to require no treatment; indeed, generally it was sufficient to suspend the use of the linctus to see them disappear in three or four days.

The brain, in consequence of its sympathetic connexions with the stomach, sometimes experiences certain derangements during the use of this oil, which I have observed particularly in women, and nervous and irritable patients, viz. vertigo, a state of intoxication approaching to delirium, headache, more or less intense, accompanied with redness of the face, and which, as well as the other phenomena of which we are speaking, seem to depend in a great measure upon the strong and penetrating odour of this volatile oil."

[M. Martinet attaches great importance to the form of administration.—He says:]

It has been demonstrated to me by a great number of facts, that it is necessary to prescribe the oil of turpentine in a convenient form, to insure all the chances of success offered by this precious drug. On this account, its direct contact with the mucous membrane of the alimentary canal must be guarded against, so as to avoid the various unpleasant effects that might therefrom arise. With this end in view, the patient ought to be directed to take, half an hour after the turpentine, a soothing drink, or aromatic infusion. Honey, gum arabic in powder, or calcined magnesia, are the substances most fit to be administered in conjunction with it; and although in the greater number of cases detailed in this memoir, honey was used, I would nevertheless observe, that this mixture, alike disgusting and disagreeable, is so repugnant to some patients, that they cannot swallow it. To avoid this inconvenience, and prevent the vomiting which sometimes ensues, I now mask the acrid taste of the turpentine by an aromatic syrup, by an inert powder, or, better still, by calcined magnesia, a plan which has of late been followed with the balsam of copaiba. The following is one of the methods of preparation which has appeared to me most convenient. I composed the formula in 1822, along with M. Caventou, one of the most distinguished chemists of our time.

Take the white of one egg; Essence of Turpentine, 3iij; Syrup of Peppermint, ℥ij; Syrup of Orange Flowers, aa.

To be made into a linctus, of which three table-spoonsful are to be taken per day.

It is sometimes necessary to add to this portion a certain quantity of laudanum, particularly when the stomach cannot support the presence of the turpentine. In this way vomiting may be prevented.

[The cases in which turpentine is indicated are thus described by M. Martinet:]

It is chiefly in sciatic and crural neuralgia, that this medicine is most likely to succeed; but it may also be had recourse to with advantage in neuralgia affecting the superior and inferior extremities, and the face, of which I have given cases. The oil of turpentine is always indicated when the neuralgia does not depend upon an organic alteration, nor on a constitutional principle seated in the sciatic nerve, such as the virus of syphilis, which must be expelled by mercurial treatment. The chances of success are greater when all the characters proper to neuralgia exist, such as acute pain, a tracing by it of the course of the nerves, and violent and quickly succeeding paroxysms; and this remark is applicable, be the disease chronic or acute, and whatever means have failed. Blessed be the medicine which can be regarded as an anchor of safety, when all the resources of art have been exhausted, and when the future seems to have nothing in store for the patient, but long and cruel suffering, or the thought more painful still, that he is labouring under an incurable malady!

London and Edinburgh Monthly Journal of Medical Science, Feb., 1842, *p.* 157.

11.—VALUABLE HINTS FROM THE DIFFERENT PHARMACOPŒIAS.

[There is a very able review of the Russian, Danish, British, and American Pharmacopœias in the British and Foreign Medical Review, from which we extract the following valuable hints on some important articles.]

Nitrate of Silver.—The analogy between *Gonorrhœa* and purulent

opthalmia might very naturally lead a practitioner to employ nitrate of silver in the cure of the former, if he reasoned at all correctly in the matter; for they are both purulent inflammations of mucous membranes. Many of the agents used as injections in gonorrhœa, such as the sulphates of zinc and copper, acetate of lead, bichloride of mercury, sulphate of alumina, &c. excite more or less inflammatory action in the urethra, and in scrofulous subjects sometimes do more harm than good; but the nitrate of silver, in place of exciting more, generally diminishes inflammation, and on this account may be employed at the very commencement of the disease. We have used this remedy for the last ten or twelve years with much more success than any other injection, and have had no reason to believe that it causes hernia humoralis or any other bad consequence. The proportions we employ are from 1 to 4 grains to an ounce of water, the strength being regulated according to the greater or less inflammation of the parts.

The tincture of camphor is so generally reckoned a soverign cure for *Chilblains*, that many practitioners would think it heretical to use any other remedy. As far as our experience goes, this agent very often fails in affording relief, and is less effective than the nitrate of silver. A pretty strong solution of this is required, the strength being varied from 10 to 30 grains of the lunar caustic to an ounce of water. Occasionally we have used the proportion of a drachm to the ounce of water, and even more. In one obstinate case, we used a saturated solution (equal parts of nitrate of silver and water), which produced a permanent cure.

An ointment made from galls is a favorite remedy for *Hæmorrhoids*, but like camphorated spirit of wine in the cure of chilblains, it often fails. An ointment composed of from 5 to 10 grains of nitrate of silver, very finely pulverized, and an ounce of lard, succeeds, in many cases where the hæmorrhoids are recent. When hæmorrhage arises from internal piles, or from congestion of the lining membrane of the anus, the solution, in the proportion of from 10 to 30 grains to an ounce of water, injected with a syringe, is a preferable method. It ought, however, to be remembered that when the solution is strong, not more than a drachm of it should be thrown into the rectum. In prolapsus ani the efficacy of this solution is not so certain, although we have on several occasions succeeded in curing the patient with it.*

Irish, or Carrageen Moss, (Chondrus crispus.)—This fucus is found abundantly on the coasts of Ireland; and within the last ten or twelve years has attracted some attention as a substitute for arrow-root, sago, &c. It has, however, been long known in Ireland, and highly esteemed by the peasantry on the western coast, as a nutritive article of diet and as a remedy for constipation, diarrhœa, scrofula, and diseases of the kidneys. Mr. Pereira gives a short account of its properties and uses, a portion of which we shall lay before the reader, as no account of this vegetable is to be found in our ordinary works on Materia Medica.

"In the recent state it is purple-brown or purple-red, becoming greenish and untimely whitish in decay. As met with in commerce it is dry, crisp, mostly yellowish or dirty white, but intermixed with purplish-red portions, inodorous or nearly so, with a mucilaginous taste. It swells up in water. A calcareous meshy crust (consisting of various species of Flustra) is fre-

*[In our fourth and last Retrospect, article 59, will be found an interesting communication on injections in Gonorrhœa by Mr. Acton, in which he states that Mr. Carmichael, of Dublin, occasionally uses injections of nitrate of silver of great strength, 10 or 11 grains to the ounce. In this opinion, however, we find, Mr. Acton is completely mistaken. Mr. Carmichael has published his denial of this practice, and states that he usually begins with a quarter of a grain to the ounce of distilled water, increasing the proportion gradually to that which can be borne with impunity, but this seldom amounts to a grain to the ounce.—*Dublin Medical Press, Dec.* 15, 1841, *p.* 379.]

quently found on the frond.....It is usually exhibited in the form of decoction or jelly.

"1. *Decoctum Chondri.*—Macerate half an ounce of carrageen in cold water, during ten minutes; then boil in three pints of water, for a quarter of an hour. Strain through linen. Milk may be substituted for water when the decoction is required to be very nutritious. By doubling the quantity of carrageen a mucilage is procured. Sugar, lemon-juice, tincture of orange-peel, or aromatics, as cinnamon or nutmeg, may be employed as flavouring ingredients.

"2. *Gelatina Chondri.*—Prepared by concentrating the decoction, or by employing a greater quantity of carrageen. (pp. 563-4.)

The following is M. Beral's formula for preparing what he is pleased to call analeptic or restorative milk, which perhaps may be interesting to some of our dietetic practitioners: Take milk 24 ounces, Irish moss 4 scruples, sugar half an ounce, canella or cinnamon 1 scruple; macerate the moss in cold water for a few minutes, then shake the water out of it and boil until the liquid attains the consistence of warm jelly; when cold it has the consistence of cream. In the Danish Pharmacopœia the proportions given for making "Carraghen-Mos-Gelée" are 2 drachms of the moss to 12 ounces of milk.

Creosote.—We shall assume that the general qualities and administration of this medicine are pretty well known, and will, therefore, only allude to one or two points connected with its theraputic agency. As an internal remedy we consider creosote chiefly valuable for its powers in checking vomiting, arising from irritability or derangement of the digestive organs, and we have tried it so extensively as completely to satisfy ourselves upon this point. It would be an exaggeration to say that it scarcely ever fails; but certainly it succeeds more frequently than any other agent we have tried in such cases. We agree with Mr. Pereira in thinking that it frequently fails where the vomiting depends upon organic disease, but even in some of these cases, a temporary relief is obtained from it. There are some essential oils which are also very efficacious in checking vomiting, such as the oil of cloves, which we have often employed, particularly in affections of the digestive apparatus occurring in children, who could not be induced to swallow creosote. The formula we employed is 8 drops oil of cloves, 2 drops liq. potass., 30 drops of sp. æth. nitros, 2 ounces syrup, rubbed up together in a mortar. Occasionally the addition of a little magnesia, laudanum, or tincture of hyoscyamus is useful, if there be acidity, diarrhœa, or pain from flatulency. Dr. Elliotson and others have recommended creosote in the treatment of diabetes. We have tried it both in the saccharine and insipid form of the disease, and, as far as our experience extends, with very little effect in altering either the quantity or quality of the urinary secretion. As an agent for checking hæmorrhage it is worthy of a more extensive trial than it appears to have received from the profession. In such cases it appears to act principally by coagulating the albumen of the blood, and thus forming a solid barrier to its impetus, nearly on the same principle as nitrate of silver acts, by the formation of a slough.

Croton Oil.—In cases of constipation accompanied with vomiting, its combination with opium is often adventageous, exhibited in the form of a pill, viz. two or three drops of croton oil and one grain of opium. The opium tends to relieve the vomiting, but does not prevent the purgative operation of the oil, which generally takes place in a few hours after the dose is swallowed. We have found the oil a valuable addition to the compound colocynth pill as a laxitive in very obstinate conditions of the bowels, in the proportion of one eighth of a drop to each pill.

Ergot.—When this agent is employed judiciously, and in the proper dose, we believe that injurious results are rare; but on the other hand, when given in large doses, at improper stages of the labour, during the existence of formidable impediments, or during first labours that are lingering, the danger of inducing the death of the child is very considerable. Various hypotheses have been formed by authors to account for its modus operandi in killing the child. Some have supposed that it does so by the violent continuous action of the uterus causing an obstruction of the circulation of the fœtus. This conjecture is by no means improbable, and is supported by the physiology of natural labour. In the natural process after the occurrence of one uterine pain, there is an interval of repose before the accession of another; and any partial injury from pressure during one of these efforts is recovered from, by the fœtus, during the interval of ease. But in labour accelerated by the ergot of rye, the uterine pains have generally no interval, but are positively continuous; and if the child be not expelled before the expiration of several hours, it is fair to infer that the constant pressure must have a tendency to cause asphyxia. As an additional proof that this explanation is correct, we have repeatedly observed, when the pains were violent and continuous, after the exhibition of ergot, or when the delivery is protracted much beyond the usual period that the child was languid, or did not respire for some minutes, which symptoms were accompanied with lividity of the lips, and laborious breathing. The narcotic influence of the ergot has also been brought forward to account for the asphyxia of the fœtus; but if it operated in this manner the child would labour under the injurious effects of the poison for some time after birth, which is by no means the case, for as soon as the function of respiration is completely established, it appears as lively as other new born infants. Another hypothesis has been advanced, viz., the detachment of the placenta previous to the birth of the child; but if this opinion were tenable, the discharge of blood which usually occurs on the detachment of the placenta ought to take place immediately after the expulsion of the child, which is not agreeable to experience.

Besides the ordinary obstetrical rules which are laid down by authors for the exhibition of ergot; there are two points connected with its administration, which are not alluded to by Mr. Pereira, and which have not been prominently brought forward by any writer on the subject; viz., the dose that should not, in ordinary cases, be exceeded, and the more frequent death of the fœtus after its exhibition in first labours. The quantity that we have, from experience, and we have used it frequently, found safe, is from twenty to twenty-five grains, given in the form of infusion, the pulverized ergot being also swallowed. On theoretical grounds a person might be apt to imagine that if ergot of rye were harmless in second or subsequent labours, it could not be injurious in the first. If, however, we attend to the fact, that the large majority of first labours are tedious, and that the ergot has by no means the same influence over them as it has in other cases, we shall at once see that the fœtus must be much longer under the continuous compression of the uterus in the one case than in the other. So much are we convinced of the truth of what has now been stated, that though we exhibit ergot frequently when the os uteri is sufficiently dilated, and the head well advanced, we have not for several years prescribed it in a *first case* under the same circumstances.

[It gives us pleasure to see such respectable authority so nearly correspond with our own views of the pernicious effects of ergot when given in too large doses, and too early in labour. We have already published our opinion on this subject in article 59 of our first Retrospect. in which, we believe we were the first to suggest that the bad effects of this drug depended on the state of asphyxia which it produced in

the fœtus, owing to the almost continued interruption of the circulation in the vessels of the maternal portion of the placenta.]

Mistura Scammonii.—[This is a convenient formula for children: it is as follows:]

Take of resin of scammony seven grains, unskimmed milk three fluid ounces: triturate the resin with a little of the milk, and gradually with the rest of it till a uniform emulsion is formed.

British and Foreign Medical Review, Jan. 1842, *p.* 62–82.

12.—TREATMENT OF PAINTERS' COLIC.

By Dr. C. J. B. Williams, F.R.S., Professor of the Practice of Medicine, and Clinical Medicine, &c., University College.

[In the 4th and last number of our Retrospect, (Article 24,) will be found an ingenious method of treating this obstinate affection, by means of putting the patient into a warm bath, and giving him an enema whilst in the bath. This, however, might not always succeed. Dr. C. J. B. Williams' treatment, is not only the exhibition of powerful purgatives, but the combining them with Belladonna, in order to relieve the excessive pain, and following up this with alum, when the bowels have been freely opened. In the following case, the bowels had not been opened for three or four days. The following was prescribed:]

℞ Hydrarg. Chlorid. gr. iv.; Extr. Belladonnæ, gr. ss. Cap. statim.

℞ Olei Crotonis, *mij.*; Extr. Belladonnæ, gr. ss. micæ panis, q. s.; Fiat pilula 3tia. quaque hora adhibenda donec plene soluta fuerit alvus. Abdomini admov. hirud. xij.; et potsea foveatur abdomen.

20th.—Vomited last night; and after taking four of the pills the bowels were very freely opened. He has been quite easy ever since, and there is no tenderness or tension of the abdomen. Slight nausea; some pain across the loins, and tenderness in the soles of the feet; pulse natural.

℞ Aluminæ Sulphatis, gr. x.; Aquæ Menthæ Pip., ℥ iss.; Acidi Hydrocyan. dil. *mv.*; Fiat haustus ter die sum.

21st.—Continued well, but the bowels not being opened, he was ordered an ounce of castor oil, which, after operating, brought back a slight return of pain in the belly. This was speedily relieved by adding half a grain Extr. Belladonnæ to his draught. After this, he only complained of pain and tenderness of his legs and soles of his feet; after taking a few doses of quinine, he was dismissed cured, Aug. 3d.

The effect of lead on the bowels, seems to be to impair their peristaltic action, whilst, if it do not increase, it certainly does not impair their sensibility. Unable to contract on their contents, portions of the intestines become distended with fæculent matter and gas, which, irritating their sensitive fibres, cause the severe colicky pains so much complained of. At first, these pains are often relieved by pressure, which counteracts the distension; but often the bowels become so generally sore, and tender, from the continuance of the irritation, that external pressure is hurtful So too, if the bowels be not relieved of their contents, enterites may result with all its pernicious consequences.

In the present case, as usual, the great indications were to stimulate the paralysed intestines into action to expel their irritating contents, and at the same time to lower their sensibility, and thus relieve the pain. As there was tenderness as well as pain, it was thought safe to apply leeches and fomentations, to remove any inflamatory affections that might have com

menced; but the chief means of fulfilling the indications were by purgatives and narcotics. The purgatives chosen were of the most active kind, calomel, and croton oil, under the impression that those which can soonest answer their end, are in truth the least irritating. The narcotic selected, was extract of belladonna; its peculiar eligibility depending on the fact, that although powerful in deadening sensibility, and convulsive action, it does not appear materially to injure the vermicular motions of the intestines, or to arrest the secretions, as opium does. In my experiments on animals, I was surprised to find, in animals poisoned with belladonna and stramonium, how well the intestines retained their irritability, when that of the bronchial fibres was quite destroyed. In this and other cases in which I have tried it, this combination answered very speedily and satisfactorily.

After the bowels were fully opened and the pain relieved, alum was given to promote the chronic contraction of the intestines, still combined with belladonna to prevent a return of pain. Alum has been much given of late in Paris, as a remedy in painter's colic; and I believe that its efficacy depends on its local tonic or astringent effect; but it is of no use till after the bowels have been well opened.

The neuralgic tenderness and pains in the legs, which the patient complained of, after both attacks of colic, may be ascribed to the direct presence of lead in these parts; but I am more inclined to class it with the cramps of cholera and other affections attended with irritation of the intestines. Pains and other cramps in the lower extremities are very common symptoms of disorder in the colon. They probably depend on a reflex action, by which sensations as well as motions are excited in distant parts. Many other instances of what are called sympathetic pains are probably of this kind: such as pain in the right shoulder with disease of the liver, pain in the breasts in dysmenorrhœa, &c.

Medical Gazette, Dec. 17, 1841, *p.* 478,

13.—FURTHER OBSERVATIONS ON ASPHYXIA.

By John Snow, Esq.

[In our last Retrospect—No. 4, Article 27,—will be found some very interesting remarks on this subject, by Mr. Snow and Mr. Edwards. In the Westminster Medical Society, an animated discussion took place, in the next meeting following the publication of Mr. Snow's opinions; when that gentleman protested against the method of resuscitation adopted by the Royal Humane Society. He said:]

Dr. Edwards had shown, by a numerous set of experiments, that the progress of Asphyxia was much more rapid in all classes of animals at blood-heat than at inferior temperatures. The same physiologist had also shown that the quantity of oxygen consumed and the necessity for respiration, kept a direct ratio with the developement of animal heat; and, likewise, that the application of heat to the body increased its power of developing caloric, whilst the abstraction of heat by means of any cold medium had a contrary effect. Every one might observe that when the body was heated by exercise, or by any other cause, the necessity for respiration became much increased, and that breathing could not be stopped, only for a few seconds, without inconvenience, and even danger. Now, it was the stoppage of respiration that was the cause of mischief in drowning, as in every case of asphyxia; and withdrawing a person from the water would be of no avail unless respiration were re-established, for otherwise the process of asphyxia would be going on; therefore the warm bath, by putting the system in a state which required more oxygen, would

hurry on the process of death, if it did not at once cause the acts of respiration to commence. But the mechanical acts of breathing belonged to animal, not to organic life; they were, indeed, almost voluntary acts, and the warm bath, to rouse these, must do it through the nervous system. In the progress of asphyxia, however, voluntary motions ceased first, next the convulsive motions, and the period when they might be excited by stimuli ceased; and the action of the heart, a languid circulation and some slow organic changes were the last signs of life to depart. It was clear, then, that the warm bath could only restore some persons not far advanced in asphyxia, who might easily be restored without it; whilst, in other cases, it would extinguish those small sparks of vitality they were anxious to cherish and light up into a flame. They had had fearful proof of the correctness of these views, from the statement of Mr Woolley, that he had not found artificial respiration of benefit after the warm bath failed to restore life. Mr. Woolley had told them that five or six minutes was the longest period he had ever known any person to remain under water who was afterwards restored; but in the early reports of the Royal Humane Society, when only warm blankets, and similar less energetic means of applying warmth were resorted to, several persons were resuscitated after being more than ten minutes submerged, two or three persons more than twenty minutes; and in one of these cases there was the clearest proof that the person must have been, at least, twenty minutes under the water. In an early report of the society at Amsterdam, for the recovery of persons drowned, (the first society of the kind which was formed,) it was stated that of the persons who recovered many had been but a few minutes under water, some a quarter of an hour, others half an hour, and one a whole hour. He knew no reason why these accounts, reported by scientific people, ought to be disputed. We heard often in our own days of persons being restored after lying some time before assistance was procured; and, if a person might remain five minutes under water, and ten more before any kind of breathing was set up, he might, undoubtedly, remain fifteen minutes submerged with an equal chance of recovery. It would always be a most dangerous state when total insensibility was produced by asphyxia; but we ought not to despair even when it had continued a length of time. Sir Benjamin Brodie had stated, that when the heart had ceased to act in asphyxia, or even ceased to act sufficiently to circulate the blood, it would be impossible to restore its action by artificial respiration. He (Mr. S.) had related in his paper, that he, in some measure, restored the action of the heart in a guinea-pig that had been dead an hour, by artificial respiration; and he could now bring forward the evidence of one of the greatest physiologists that ever lived on this subject, that of John Hunter, in the paper already alluded to:—"The muzzle of these bellows was fixed into the trachea of a dog, and by working them he was kept perfectly alive. While this artificial respiration was going on, the sternum was taken off, so as to expose the heart and lungs: the heart continued to act as before, only the frequency of its action was greatly increased. Mr. Hunter then stopped the motion of the bellows, and observed the heart became gradually weaker, and less frequent in the contraction, till it left off moving altogether; but, by renewing the operation, the heart began again to move, at first very faintly, and with longer intermissions, but by continuing the artificial breathing, the motion of the heart became as frequent and as strong as before. This process was repeated upon the same dog ten times, sometimes stopping for five, eight, or ten minutes. Mr. Hunter observed, that every time he left off working the bellows, the heart became extremely turgid with blood, and the blood in the left side became as dark as that in the right." This experiment of Hunter's proved, at least, that the heart might in some cases

be restored to action by artificial respiration after it had ceased to beat. But, even supposing Sir B. Brodie's opinion to be correct, it would not justify the use of the warm bath in the first instance, since the heart would continue to act after the muscles of animal life had lost their irritability. The very slow and gradual manner in which respiration became renewed after apparent death, ought to deter one from at once placing the patient in a state in which he must either have a full and extensive respiration or perish. He would quote another passage from the same paper of John Hunter, in which that great man seemed, by his wonderful penetration, to have foreseen the laws of animal heat since made known by Dr. Edwards. After alluding to artificial respiration, it is stated—"While this business is going on, an assistant should prepare bed-clothes, carefully brought to a proper degree of heat." Heat, our author considers, as congenial with the living principle—increasing the necessity of action it increases action; cold, on the other hand, lessens the necessity, and, of course, the action is diminished: to a due degree of heat, therefore, the living principle owes its vigour. From experience, he says it appears to be a law in animal bodies, that the degree of heat should bear a proportion to the quantity of life; as life is weakened, this proportion requires great accuracy, while greater powers of life allow it greater latitudes. The servants of the Royal Humane Society should have an instrument for artificial respiration in the boat with them, and use it the instant a body was got out of the water, without power to breathe; the cold, if not very intense, so far from being prejudicial, would be favourable to the maintenance of any latent vitality which remained. In cases where the apparatus was not at hand, artificial respiration should be performed in the mode proposed by Mr. Dalrymple. i. e., by tearing a sheet into the form of a many-tailed bandage, and alternately compressing and setting free the chest by this means. Rubbing the bodies of persons apparently dead had proved useful, he considered, by the pressure it occasioned on the chest and abdomen, and which might set up a slight current of air to and from the lungs.

Lancet, Nov. 6, 1841, p. 212.

14.—ON THE HOT AND COLD FORMS OF RHEUMATISM AND THEIR TREATMENT.

By Dr. Taylor, Professor of Clinical Medicine in University College, &c.

[The first patient upon whom the following clinical remarks were made, was a cabman, exposed to all kinds of weather: he had syphilis about three years ago, and was in the habit of taking freely of spirits.—About two months before admission into the hospital he was wet through, and this was followed by the rheumatic pains, first in the head, and then all over the limbs:]

The only disease with which this could be confounded was secondary syphilis. The man had had syphilis three years before, and had had occasional pains in his limbs ever since, but he had been constantly exposed, as a cabman, to the causes of rheumatism; there was no irreglarity of the spine of the tibia, and he had had no other secondary symptoms. It was necessary not only to distinguish whether the disease was rheumatism, but also the *kind* of rheumatism. One of the most important practical divisions of this disease was into the hot and cold forms. In the hot rheumatism, the pains were aggravated by the heat of the fire and of the bed-clothes, and there might, or might not be, in addition, local increase of temperature with more or less febrile reaction. On the other hand, the pains were relieved by cold—by uncovering the part, and in some cases even by cold applications In the cold rheumatism, the pains were increased

by this exposure, and were relieved by warmth, by approaching the fire, by flannels, and abundant clothing: in some cases the patients felt chilly, and complained that they never could get warm; the skin was often pale and the surface cool. In making this diagnosis it was important to know that in both forms the pains were worse at night than during the day. Patients on being asked if they were worse when warm, often replied that they were worse when warm in bed at night; but this answer was not enough, we must inquire the effect of heat and cold during the day. It was necessary not to confound the hot and cold with the acute and chronic forms of rheumatism. The acute rheumatism was always hot, but the hot rheumatism was not always acute; it might go on for many months, and, therefore, be of the chronic form. The cold variety, however, was generally, though not necessarily, chronic; he first learnt this distinction from Dr. Elliotson, and had since verified it in innumerable instances. Whether the observation originated with Dr. E. he did not know. The value of the distinction consisted in its affording a guide to the treatment; the one variety being chiefly, not exclusively, relieved by one class of remedies; the other by a different class. It was in the hot rheumatism that bleeding, general and local, colchicum and mercury, were most serviceable: in the cold form, stimulating remedies were more useful, such, for instance, as guaicum, steel, rubefacient liniments, hot-bath, and iodide of potassium In the present case, the disease belonged to the cold form; the patient had suffered more or less during a great part of the preceding winter, and he had become considerably reduced in flesh; the heart offered nothing morbid with the exception of the sound at the base; the second sound was less clear than in health, and had a dry and hard character; it was such a sound as might be supposed to arise from valves whose texture had become less flexible and more rigid, and it had been observed to accompany a thickened state of the valves.

This was the opinion put forth by M. Bouillaud, and Dr. Taylor had made the same observation independently of him. The valves might still perform their functions, but less readily, perhaps, than in their healthy state: M. Bouillaud had termed this sound "*bruit de parchemin*," from its supposed resemblance to that which might be produced by valves made of parchment.

Causes.—The cause in this case was that almost always observed in rheumatism: namely, exposure to cold. The patient was a cabman, out in all kinds of weather, and during the great part of the day.

Treatment.—The medicine administered was the iodide of potassium, which was, perhaps, the most generally useful. All remedies would fail in particular cases, but this, perhaps, less frequently than any other. The dose was three grains at first, but was gradually increased, until an effect was produced. Fomentations were ordered to the right leg a day or two after his admission, with immediate relief to that part; and this was all that was done, in addition to giving the medicine. For three or four days no amendment was observed in the pains generally, but about that time they began to yield, and soon disappeared entirely.

The patient's appetite returned, and he was discharged cured, on the 24th, about a fortnight after his admission. The patient had suffered during a great part of the winter, and his general health was much impaired by suffering. Dr. Taylor remarked that he had repeatedly seen cases of rheumatism, especially those affecting the fibrous tissues, and which had resisted other modes of treatment for months, yield in a few days to the iodide of potassium.

About a month after his discharge, the patient was re-admitted, nearly as bad as before. There had been a succession of wet days when he had been out, and the symptoms were reproduced. On this occasion the form

of the disease was the same, it was only a little less severe. The same treatment was prescribed, and continued for several days, but without the slightest effect: whether, if persevered in, it would have made any impression, was uncertain, but it was continued longer than the time in which an improvement was produced in the first attack; and generally the iodide of potassium produced its effect in a shorter time than this. The guaiacum mixture, with the compound tincture of guaiacum, was given on the first of November, and it produced almost immediate relief. The patient felt better after he had taken four doses only of the medicine; and this improvement went on and continued permanent: the only other sensible effect it produced, was a pretty abundant perspiration. On the 6th of November the patient was discharged well. Dr. Taylor remarked that the result of the treatment in this case was very interesting: he had before stated that different classes of remedies appeared to be suited to the hot and the cold rheumatism, and that in each form the same remedy succeeded at one time and failed at another. He had frequently thought that closer observation might enable us to discriminate the particular cases suited to each remedy; and had observed, for example, that the iodide of potassium was peculiarly useful in cases in which the disease affected the fibrous tissues, as that over the tibia and in the scalp. In this case, however, there was no apparent difference in the disease to explain the different results. The second attack was only rather less severe than the first; the form and seat of the disease were the same, as were also the age, strength, and external circumstances, as food, lodging, and, of course, the constitutional peculiarities of the patient. No two attacks could be more completely alike, and yet in one the treatment was speedily and completely successful, whilst in the other the same treatment as completely failed.

London Lancet, Dec. 11, 1841, *p.* 367.

15.—PARALYSIS TREATED WITH CANTHARIDES.

By Dr. Seymour, Physician to St. George's Hospital, &c.

[The tincture of cantharides is given, by Dr. Seymour, in very large doses, in cases where the paralysis cannot be traced to any affection of the sensorium, and where there is no trace of organic disease. In the case which was commented upon by Dr. Seymour in one of his clinical lectures, the patient had entirely lost the use of the upper limbs and had a weakness of one leg. In a great majority of such cases, we should find a disease of the vertebræ above the seat of the injury, and there would be pain on pressure or on percussion; but in this case this symptom was entirely absent, and if there had been any actual disease of the spinal marrow, we might have expected to find the diseased action continued to the lower extremities, as well as to the upper: but such was not the case, as every part below the upper extremities appeared perfectly sound and healthy. In such a case as this Dr. Seymour ventures to give 40 minims of the tincture of cantharides twice a day.]

Provincial Medical and Surgical Journal, Feb. 19, 1842, *p.* 405.

16.—ON THE SOLUTION OF URINARY CALCULI BY THE WATERS OF VICHY.

[Being a Report of the Academy of Medicine, of Paris.]

[Although we cannot agree with all that is advanced in this report, we think that it contains much information which ought to be generally

known. It is translated by Mr. B. Phillips. The following is an analysis of the water furnished by the spring called the *Grande Grille*, with which the experiments were made.]

Temperature, 32° to 34° Reaumur.

Water	992.5
Carbonic Acid	0.9
Carbonate of Soda	4.9
Carbonate of Lime	.3
Carbonate of Magnesia	.08
Carbonate of Iron	.01
Muriate of Soda	.5
Sulphate of Soda	.4
Silica	.07

[It is very interesting to observe the gradual changes and improvements which have been from time to time introduced into practice, regarding the treatment of urinary concretions. This is very ably shown in a paper in the British and Foreign Medical Review, for October, 1841, p. 388, and which is well worthy of perusal by the whole profession. Magendie proved more particularly than had hitherto been done, that certain aliments have an important effect on the composition of urine. Dr. Wohler proved in a prize essay, that the alkaline carbonates and subcarbonates pass into the urine without change in their condition; on which circumstance, all future medical treatment of urinary calculi is founded At last, M. D'Arcet found that the waters of Vichy had the same effect. M. C. Petit, in reference to whose three memoirs on this the Academy of Medicine have drawn up their report, proceeded as follows to experiment on these waters:—]

Having procured a certain number of calculi of different natures, the composition being ascertained by analysis, those calculi were sawn into two equal portions; one half was reserved as a point of comparison; the other was carefully weighed, and drawn, for the purpose of preserving its general appearance and its form; it was then placed in a little wicker basket, and immersed into the fountains of the "Grande Grille." Each basket was placed in a vase destined to receive the particles which might be detached from the calculus. The water was easily renewed; its temperature was 38 to 39 centigrade. The calculi were removed and dried; they were afterwards weighed and drawn.

[Then follows the result of 15 experiments, which we need not here relate: it will be sufficient to state that the loss varied from 12 per cent. to 74 per cent.]

The waters of Vichy exercise, therefore, a double action upon urinary concretions. On the one hand, the bicarbonate of soda contained in the water, combined with the uric acid of the calculi, causes it to pass into the state of urate of soda, and thus determines the solution; on the other hand, the mucous, which calculi contain, is attacked by the alkaline salts of the mineral water, and the elements of the calculus, deprived of the cement by which they are agglutinated, fall apart in particles of various sizes.

It is in virtue of this disintegration that certain urinary concretions, insoluble or only sparingly soluble in alkalies, undergo a more prompt and more considerable diminution of volume than that which results from the solution of uric acid calculi.

[These facts had already been known and particularly explained by Chevallier. In all the experiments tried by M. Petit, the calculi were dry; having been taken from the human subject sometime previously, "the mucous entering into their composition was, therefore, less easily acted upon by the alkalies, and the dissolution and disaggrega-

tion must have been more difficult and slower than when the calculus is recently taken from the bladder."]

These facts are certainly of great importance; but we must be on our guard lest we attach to them too great weight. Because a calculus is dissolved in Vichy water, does it necessarily follow that it will be equally dissolved in urine—become alkaline by the use of this water? To make the experiment more conclusive, a calculus should be dissolved in urine made alkaline. But we know how rapidly this fluid is changed after its excretion. Add to this that the quantity of urine contained in the bladder is smaller than the quantity of Vichy water used in experiments by M. Petit, that the urine is not necessarily renewed, and we must admit that those circumstances must have a decided influence on the results, seeing that a current of water rapidly diminishes certain calculi.

Again, in most of the experiments, only fragments of calculi have been subjected to the action of Vichy water—a circumstance which would be favourable for their destruction. It is not, then, in facts of this kind that we should find a solution of this important question.

But if there be no certainty, there is unquestionably proof of the action of those waters upon calculi; these proofs are acquired by the change produced in urinary concretions passed by persons during the use of alkaline bicarbonates; by the diminution which many calculi have sustained, as shown by sounding, by direct inspection, by the presence of substances in solution, formed at the expense of new principles which the urine contains, and the elements of calculi with which they they are combined: may I add, that the cessation of the symptoms of stone, in some patients, permits us to suppose that, in them, the destruction has been entire, and that there was only wanting to the demonstration the examination of the bladder.

[This report concludes with the following general conclusions:]

From the facts, reasonings, and experiments, exposed in this report, we draw the following conclusions:—

1st. Urinary concretions are acted upon by the urine, when it becomes alkaline, under the use of the thermal waters of Vichy, taken internally, or used in baths.

2d. It is not proved that urinary concretions of so considerable a size as to constitute true calculi have been entirely cured by those waters.

3d. This cure, however, is by no means impossible; indeed it presents great probabilities.

4th. The question can only be determined by direct experiment.

5th. The experiment may be made without danger.

Medical Gazette, Nov. 12, 1841, *pp.* 256, 264.

17.—USE OF ELATERIUM IN RENAL DROPSY

By Dr. Clendinning, Physician to the Marylebone Infirmary.

[The case of dropsy here referred to, was probably owing to a morbid state of the blood, and a peculiar degeneration of the kidneys. The patient was admitted into the Marylebone Infirmary, Aug. 9th, 1841. His health had been greatly impaired by different causes. He was relieved by elaterium, and discharged in four or six weeks; but again relapsed, and was again relieved chiefly by the elaterium. Dr. Clendinning ends by the following remarks:]

The treatment of dropsical affections, such as that just described, is

now, with most well-informed physicians, I believe, governed by two leading principles.

1. The first indication is the removal of the prominent symptom of such diseases, viz., serous effusion. To the presence of water in the cavities in preternatural quantities is popularly ascribed all the inconveniences, and is really due much of the mischief, of the dropsical state. 2d. The second great indication is the removal of the humoral and glandular morbid conditions, on which we believe the dropsy in such cases to depend. There are, of course, various minor and incidental indications in these, as in all other grave diseases; such as correcting defective biliary secretions; securing sleep; relieving local distress by topical remedies, &c.; when any of such matters require attention. But the great ends to be had in view are, as already stated, 1. the stimulation of the absorbents of the serous cavities, and of the excreting vessels of one or more of those emunctories that give vent to the watery elements of the blood; and 2d. the correction of the fibrinous state of the blood and congested condition of the viscera, but especially of the kidneys. Those two indications are, in a theoretical point of view, very different, but in their practical effectuation they closely correspond and nearly coincide. Both include amongst their means a limited diet and increased evacuations. The tendency of the agencies required for the accomplishment of either indication is, therefore, substantially, though in different degrees, one and the same. When happily applied, they alike, though not equally, relieve oppression, diminish serous plethora, and correct sanguification and excretion; and when unsuccessfully administered, they tend alike to extenuation and exhaustion. The means employed in the preceding case for the accomplishment of those two leading indications, may, for the reason just ascribed, be considered together.

They were diuretics, bleeding from the arm, elaterium, with restricted diet. The diuretics employed were amongst the most successful in our Pharmacopœia, viz., juniper infusion, with nitrous æther squills, tincture, and acetate of potass. Finding, after forty-eight hours use of diuretics with regular diet, that no change of the renal secretion had been obtained, and that the pulse continued hard and full, I ordered half-a-pound of blood to be taken from the arm, and the diuretics to be continued. After this, improvement was soon observed in the pulse, general feelings, and quantity of urine, but the albuminous condition continued. A month elapsed under this plan, during which he continued better; but he had still some effusion in the abdomen, and albumen in the urine: I then added elaterium to his diuretics. Under this medication he continued for nearly a second month with advantage, but the ascites and albuminuria had not wholly disappeared at the end of that period. Increase of the elaterium had now become needful (from 1-12 to 1-6 of a grain twice or thrice daily). Under this last modification of the treatment he still continues, with this difference, that he has for some time not taken quite one pill (1-6 gr. elat.) per diem instead of two or three as at first: with the single pill he has about three evacuations, and no more, daily, and urine, he says, in sufficient quantity; and for more than a month no albumen has been detected.

Remarks.—Now, unquestionably, the principal remedy in this case has been the elaterium. The bleeding was beneficial, and the diuretics had some effect; but the removal of the serum from the abdomen, the albumen from the urine, may fairly be attributed to the hydragogue principally. The mode of administering the elaterium adopted, is that which has been in use with me for some years. By exhibiting the medicine in minute doses at intervals through the day, we can generally procure discharges of aqueous matters, by stool, as copious as we can require; and very commonly the kidneys participate in the unusual activity of the

bowels, and large evacuations of urine are likewise obtained. When the elaterium agrees well, we may, I think, confidently reckon on clearing away the serous accumulations in a moderate time by its means; and in a large proportion of cases (I should say a large majority) of general dropsy, the stomach and bowels can bear it well enough. By the persevering use of the drug in small doses, with or without correctives, as hyoscyamus, &c., habit soon comes to our aid to reconcile the stomach to it, either completely, or at least so far that it does not derange materially the digestion: and a constant flux is maintained, which soon exhausts the serous effusions. One rule I generally observe in the use of elaterium, and I attach considerable importance to it, viz., to secure sleep, by opium, if necessary. So that between each day of purgation, &c, shall be interposed a night of sufficient, and, if necessary, artificially induced comfort and refreshment. With this view the elaterium is begun early, and continued at short intervals until purging supervene, when it is suspended for that day to be resumed next morning. The use of opium at night has considerable effect in procuring tolerance for the drug in cases in which it could not otherwise be conveniently employed. For this case, however, opium was not required. His rest was not injuriously disturbed, owing apparently to the operation of the elaterium being over usually each day before bed-time. Other auxiliaries to the hydragogue plan are the use of a diet as sustaining as the pulse and other symptoms may be found to admit, and clothing as warm as the patient can conveniently wear, with woollen clothing next the skin. These were both employed in this case with their usual good effect.

Medical Gazette, Dec. 3, 1841, p. 376.

II.—ON OPIUM SMOKING, AS A REMEDIAL AGENT.

By Dr. James Johnson.

[An interesting paper on the opium smoking in China, has been published by G. H. Smith, Esq., surgeon, in Penang, and communicated to Dr. Johnson, who makes the following remarks on the subject.]

First, I think it will be admitted that the Chinese mode of taking opium by smoking or inhalation, induces the peculiar sedative effects of that drug more powerfully and more speedily than when taken into the stomach.

Second, There can, I believe, be little doubt that these effects are produced chiefly, if not entirely, through the medium of the nervous system, and not by digestion, absorption, and the circulation.

Third, It does not appear that the casual or temporary smoking of opium is more dangerous or injurious to the constitution than that of swallowing the drug, whether in substance or solution. On the contrary, I believe it is less so, and not so likely to impair the functions of the stomach, liver, and bowels, as when directly applied to the digestive apparatus.

Fourth, The *habitual abuse* of a drug, by which, in fact, it is converted into a poison, is no argument, or reason against its occasional exhibition as a remedial agent.

Fifth, If the above observations be admitted as rational, I see no reason why we should not employ the Chinese mode of inhaling the fumes of opium, in certain dangerous and painful maladies where the common mode is found to be inefficient, and attended with great derangement of the digestive organs. It is clear that we can very seldom induce that profound sleep and insensibility to all mental misery and corporeal pain, by opium taken into the stomach, which we find to be produced by the inhalation of its fumes acting directly on the brain, through the medium of the nerves.

Might not the Chinese mode then be adopted in tetanus, hydrophobia, tic-doloureux, (especially of the facial nerves), violent spasms, and painful diseases that defy the power of opium taken in the common way?

The various preparations of opium might be easily smoked by means of a common pipe, and the powerful effects induced in a very short space of time, without the possibility of their being rejected by the stomach, or prevented from acting energetically on the sensorium, and throughout the whole nervous system.

Medico-Chirurgical Review, April, 1842, p. 586.

19.—"CLINKERS," A NEW FORM OF ADMINISTERING IRON.

By Conway J. Edwards, Esq., M.R.C.S., Batheaston, Bath.

[When we find this remedy sanctioned by Dr. Watson, of Bath, we think its merits as a tonic worthy of trial; although, we confess that it is with some diffidence that we admit it into our pages.]

"Clinkers," is the refuse of the blacksmith's forge, and differs from common ashes and coke in its greater specific gravity, component parts, and external appearance. As a medicine in cachetic disorders, particularly those of females, it has been used for many years, by "knowing old women," in certain manufacturing districts; and the success which attends its exhibition, particularly in chlorotic disorders, is such as to have won for it the title of "specific."

The following is the formula for its preparation:—The bluest and heaviest clinker, being selected from the mass, is reduced to an impalpable powder, (a work of no small difficulty, on account of its metalloid nature). Any quantity of this powder may be mixed, with a sufficiency of treacle, to form a stiff paste; and to every eight ounces of the mass, half an ounce of magnesia, and the like quantity of ginger must be added. Thus formed, it is any thing but inviting to the eye; but this can be remedied by using honey in lieu of treacle, and adding half a drachm of the peroxide of iron to the compound.

The directions which accompanied the formula, were as unique as the formula itself. It must be taken three successive days and nights (twice a day), for three days; omitted for a like period, and so continued until the course which has been decided upon should be finished. The dose, is a teaspoonful. Absurd as these directions seem, they are not so ridiculous as they appear, for experience has demonstrated that constitutional irritation supervenes, unless some decided interval is allowed at stated periods, during a course of this remedy.

The first time I heard of this medicine, was after it had effected a happy change in the constitution of a young lady, who had been suffering from some internal but obscure disorder, for several years. The circulation, through the minute ramifications of the blood vessels, was reduced to its lowest ebb, while the fluid which circulated in the larger channels was a turbid brown, instead of the rich colour for which blood is remarkable. Under such a state of things, the exsanguineous appearance of the skin may be readily conceived. She had been under the professional care of two medical men before I was consulted, and when called in, found her suffering from all those symptoms of debility, which characterise uterine and ovarian disturbance. From some remarkable symptoms, I was led to fix the seat of the disease in the ovaries. During my attendance, I tried every medicine, and combination of medicines, which bore upon the case; but no permanent benefit resulted from any of them: the only preparations which produced a tolerable effect, were those of iron, and among

them none possessed such power as the ioduret. The constitution became evidently impaired; the feet swelled; there was distention; and disorganization appeared to be making rapid advances. A very distinguished physician was called in, but could give no opinion on the nature of the case. He attended for several weeks with no success; during this gentleman's attendance, most agonising pains in the head came on; they were neuralgic; for the relief of these, a veratrine ointment was applied; then veratrine, delphia, and morphine, suspended in oil; æther and ammonia were rubbed in: all these failed. I then proposed passing an electric current through the affected part, to which assent was given, but with a similar result. Le Fai's ointment was advised by some friend, and I must certainly admit, with partial success. I never witnessed sufferings so acute —so continued. Another eminent physician was now consulted. "We must," he said, "build up the constitution; it will be a work of time, but it must be done." And a work of time it might have been, for after a considerable attendance, no radical good was affected. Still, the principle on which this gentleman acted was sound, and although, as regarded the original affection, things had not improved, there was no retrograde movement, and possibly there might have been an important and visible advance, had the attendance extended over three or four years. Brighton was resorted to, and failed; the Isle of Wight, Clevedon, and several other maritime places tried; but in vain. Medicine, diet, and change of air, were alike unavailing. Dr. Watson, of Bath, was called in, but no decided opinion could be pronounced, and consequently, no very decided plan of treatment adopted. The case seemed hopeless, when a young lady, whose sufferings had been similar to those of this patient, and whose case had baffled the skill of her professional advisers, recommended her to have recourse to the remedy which had restored her to health; a large number of cases were also adduced in favour of its efficacy. The offer was eagerly embraced, and Dr. Watson's consent being obtained, the trial of "the clinker" commenced.

The result exceeded all expectations. In two months the feet ceased to swell; the tumidity of the hypogastric and umbilical regions subsided: the functions of the stomach were restored; the small wiry pulse of above 100 was converted into a healthy beat of 80; the neuralgic pains ceased; and what was most extraordinary, and pleasing, the capillary circulation became so improved, that the skin assumed a vital hue, and the cheeks denoted returning health; every morbid symptom disappeared except an excess of uterine secretion. The happy change surprised the professional attendants, as well as the patient's friends and relations, and without being at all enthusiastic in praise of the "clinker," it may be fairly admitted that the beneficial results in this interesting case were owing to its medicinal properties.

Its success here, made me anxious to test its powers further; and the lady having been so obliging as to give me the formula for its preparation, several patients were collected in whom the exsanguineous state of the skin, and wasting of the muscular fibre, were indicative of the morbid manner in which the functions of the stomach, alimentary canal, and uterus were carried on. Within a month from commencing the use of the clinker, a striking improvement took place in the appearance of the patients, and before the termination of two months every unfavourable symptom disappeared. One case in particular, is well worthy of especial notice, by reason of the scrofulous condition of the submaxillary glands, and the ulcerated state in which one of them had been for several years, and which healed during the course of the new medicine.

Provincial Medical and Surgical Journal, Feb. 5, 1842, p. 372.

20.—NEW RESEARCHES ON DIABETES MELLITUS.

By M. A. BOUCHARDAT.

[Sometime ago, M. Bouchardat published a memoir, in which he attempted to show, that the existence of saccharine urine in diabetes mellitus has some remarkable connection with the ingestion of feculent aliment, such as common bread, &c. In his treatment of such cases, therefore, he strongly insists on the almost total abstinence on the part of the patient, of all such articles of diet. The patient must, in the first place, abstain voluntarily, and continuously, from the use of common bread. He says that two objects are to be principally kept in view in the treatment; viz.]

1st. To discover an aliment which would replace bread without producing its ill effects in diabetes.

2d. To restore the economy to its natural condition, profiting by the interesting experiments of the commission on gelatine, respecting the essentially nutritious properties of gluten. It immediately occurred to me, (says M. Bouchardat), to prepare with this substance, an aliment which might be used in lieu of bread. The difficulty of preparing gluten for daily use was an obstacle in the way, but it occurred to me that the Societe d'Encouragement had granted a prize to M. E. Martin for having isolated gluten during the preparation of starch. I therefore applied to this eminent manufacturer, who zealously entered into my views, but notwithstanding all his efforts, it was always necessary to add a fifth part of fecula to obtain a light bread and of an agreeable taste. This result, though not perfect, is yet a great improvement, for two hundred grammes of this bread, with a sufficient allowance of flesh meat, would constitute a sufficient diet, and a quantity of fecula ingested daily, would amount to but fifty-five grammes.

The question of restoring the economy to its natural condition was a much more difficult one, for its solution required either one of those happy inspirations which are so rare, or an exact knowledge of the nature of the disease. In this case such a knowledge would suffice, as diabetes is not a malady connected with irreparable structural lesions; no organ essential to life is primitively affected. It is an aberration, but a rebellious aberration of the functions. Organic lesions, as pulmonary tubercles, for example, are secondary. The primitive affection should be curable, and if it has not been so hitherto, the reason is that the true cause of the disease has escaped our investigation.

The following were the considerations which guided me. The acid secretion of the skin is suddenly and completely interrupted in diabetes; and here is one decided cause of disturbance; the secretions of the mucous membrane, and of the glands of the digestive organs are altered in their chemical composition; as a consequence of this suppression of the cutaneous exhalation, they become almost completely acid in lieu of being alkaline.

Can we thence conclude that the superabundant acids in the digestive organs react on the fecula and change it into sugar? Certainly not, for I have long since ascertained that mineral or organic acids have no influence in converting fecula into sugar at the temperature at which digestion is effected. We must, however, bear in mind, that whenever the organic acids exist in considerable quantity, we simultaneously encounter that modification of albumen which acts in converting fecula into sugar; this occurs in the ripening of fruits. The same coincidence probably occurs in diabetes, and the origin of the disease is the suppression of perspira-

tion, and the perversion of the secretions of the mucous membrane, and glands of the digestive organs.

If this hypothesis be admitted, and observation and experience have clearly proved to me the reality of this perversion of secretion, the rational indication of treatment should be directed towards re-establishing the functions of the skin. I know that many fruitless attempts have been made in this direction. Thus, vapour baths have been recommended by Oribasius, Bardsley, and many others, but I have never seen any evident benefit follow their use. The same is true with respect to sulphur baths, the hydro-sulphuret of ammonia, &c.

The means which have seemed to me most effectual in restoring the functions of the skin, are, 1st. Woollen clothing, in quantity sufficient to to keep up constant diaphoresis. 2d. The internal administration of ammonia and opium.

[Some cases are related, of which the following is one:]

M. A., in the vigour of life, for about six months has suffered from extreme thirst, has passed much urine, and has sustained a daily diminution of flesh, strength and energy. His sight has also deteriorated rapidly.

16th of August, he lived as usual, consuming daily about 500 grammes of bread. Passed about three litres of saccharine urine, dark coloured, of the odour of whey, of sp. gr. 1·032, rotatory power 7, the length of the tube being 313. It was thence concluded that the urine contained about 52 grammes of sugar per pint, and that the total amount of that principle passed in 24 hours, was about 168 grammes.

The treatment consisted in—1. Replacing ordinary bread by that prepared from gluten—2. Wearing a complete suit of new flannel—3. The use of a mixture containing 17 grammes of carbonate of ammonia, 20 grammes of rue, 20 grammes of syrup, and 100 grammes of water. In the evening a bolus of 2 grammes of theriacum, and 25 milligrammes of opium was administered. These means caused abundant perspiration, which had been long suppressed; the thirst diminished as did also the quantity of urine.

This regimen was continued till the 18th, on which day the urine being examined was found acid, more highly coloured, and of a natural taste and smell; the quantity passed was somewhat above a pint, sp. gr. 1·010. Rotatory power, 0. No trace of sugar.

The regimen above mentioned, was continued, only that the gluten bread was suspended and the use of common bread resumed. On the 21st, the urine was examined. Odour and colour natural—quantity as before, but the sp. gr. was 1.028—Rotatory Power, 5·5, the length of the tube being 309. The quantity of sugar then is about 40 gr. per litre, but the total passed in 24 hours is only about 62 gr.

Notwithstanding the re-appearance of sugar in the urine, the use of ordinary bread was persevered in, the clothing, however, was made still warmer, and the dose of carbonate of ammonia and of opium was doubled.

25th August, the urine was again examined. Rotatory power, 0. Sp. gr. 1·020. Quantity, characters, and composition natural.

27th. Characters of the urine unaltered. Sp. gr. 1·018. The diabetes is cured. Ten days treatment have sufficed to re-establish the functions of the skin, to restore the strength and energy, and what is very remarkable, vision is now as strong as ever.

[M. Bouchardat concludes his paper by saying:—]

At first sight it might seem that these four patients were all submitted to identical influences. They were all treated with gluten bread, and preparations of ammonia and opium, and yet the urine resumed its natural

composition in the two last cases alone. The cause of this difference is, that flannel clothing was not employed in the two first cases, while it was employed in the two latter cases. The urine of the two first patients became alkaline under the influence of carbonate of ammonia, that salt was eliminated by the urine, and exerted no diaphoretic effect. In the two last cases the function of the skin was stimulated by the use of flannel, and the carbonate of ammonia did not pass into the urine, which remained constantly acid. When sugar re-appeared in the urine of M. A., additional flannel clothing was directed, so as to keep up constant diaphoresis and the case terminated successfully.*

Dublin Medical Press, Dec. 8, 1841, *p.* 355.

21.—LEECHES TO THE KNEE IN DYSMENORRHŒA

By M. Trousseau.

In three hospital patients under the care of M. Trousseau the catamenia have followed the application of a leech to the internal surface of the knee In one case a leech was applied to the right knee; while it held on, the patient experienced nothing particular, but as soon as it fell off, pains in the loins came on, which lasted about an hour, and the discharge then appeared. The next day it was arrested again, and a leech was applied to the left knee; and the discharge appeared as before, and continued as usual during three days. In another case the pains of uterine congestion commenced with the application of the leech, which adhered during an hour. The effect produced by one leech is not wonderful, says M. Trousseau, because if the bleeding is allowed to continue, as large a quantity of blood flows as the ordinary amount of menstrual discharge.

British and Foreign Medical Review, Jan. 1842, *p.* 236.

22.—NITRATE OF SILVER IN GASTRIC AFFECTIONS.

By Robert Dick, M.D.

[A good case of this kind is related by Dr. Dick, in which this remedy was useful.]

A young gentleman had stomach ailments almost from infancy. The most distressing symptom, however, was eructation of an acid and burning fluid and gas from the stomach, which often commenced even during meals, and continued for hours afterwards. Yet his bowels were regular, urine natural, and the functions of the skin normal, with sound sleep—and no apparent disorder or disease of any other organ in the body.

The case of this young gentleman appearing to me to betray a union of morbid secretions and morbid sensibility, I commenced the treatment with small doses of blue pill and ipecacuanha, from which no immediate benefit appeared to result. I then put him upon a month's course of nitrate of silver, with a view to allay the morbid sensibility of the mucous membrane. The effect in this, as in almost every other case in which I have tried it, was surprising and gratifying in the extreme. This patient, in common with many others who had taken this medicine, warmly expressed the great relief from irritation, flatulence, cutaneous chilliness, discomfort, which it promptly procured them. This gentleman assured me that he had not felt himself so much in possession of the *sensation* of health, so far back as memory could carry him, as he did since he began to use the medicine in question. I have once or twice laid it aside from fears of its dis-

* In article No. 29, will be found an interesting paper on the same subject by Dr. Geo. Budd, in which a somewhat different theory to this advocated by M. Bouchardat is advanced.

colourizing property; but, after a while, returned to it, and always with augmented benefit. And this young man who, when he came to me, did not dare to go into company, partly from the depression of his spirits, partly from his well-founded terror of being led into dietetic excess, partly from the disastrous effects which the moral excitement of society ever had on his enfeebled and irritable nervous system; who, when I first saw him, was plunged into the deepest despondency and despair, is now cheerful and confident,—mingles freely in society, and looks and feels like one in excellent health.

Medico-Chirurgical Review, Jan. 1842, *p.* 65.

23.—ON NARCOTISM IN NEURALGIC DISEASES.

By M. Levrat.

M. Levrat relates the history of several cases of obstinate neuralgic affections, which had resisted a long and varied treatment, but at length yielded, and rapidly too, to the use of narcotics, carried the length of producing narcotism. He thinks the practice is perfectly safe in the hands of a careful and intelligent physician. One or two cases will suffice to illustrate his practice.

1. A sister of charity at Lyons, from the fatigues of her service, had become affected with severe sciatica; the limb wasted away, and had lost a third of its volume. All the usual means failed. Opium was then given so as to induce narcotism, when almost immediately the pain ceased, and, by the end of a month, the same treatment had completely removed the affection.

2. Madame Faure, sixty-two years of age, had suffered with sciatica for three years. Three grains of opium were required to produce narcotism; and she recovered in about the same time as the above case.

3. M. Moretti suffered many years from sciatica of the left limb, which was much atrophied. All remedies had failed to relieve the excruciating pain. Two grains of extract of opium produced poisonous symptoms with narcotism, vertigo, nausea, &c., requiring bleeding and other remedies. When he recovered, his malady was gone, and two years afterwards he was still well.

4. A woman, forty-two years of age, was afflicted for many years with nervous asthma; she recovered from the first day she took a pill composed of extract of opium, and extract of belladonna.

Edinburgh Medical and Surgical Journal, Jan., 1842, *p.* 255

24.—ON COFFEE AS AN ANTIDOTE IN POISONING BY MORPHIA.

By Dr. B. Fosgate.

To relieve himself of a severe attack of toothache, Dr. Fosgate swallowed in solution one and a quarter grain of the sulphate of morphia, equal to about seven and a half grains of solid opium. In about half an hour, a sensation of thickening and rigidity of the muscles of the back of the neck came on, and gradually extended itself to all the flexors of the limbs. In about five hours severe nausea succeeded, accompanied by efforts to vomit. Tea and sour cider increased the efforts to vomit so much that the stomach rejected fluids the moment they reached it, so that a second mouthful could not be swallowed before the first was ejected. Prostration of strength and apathy, with full slow pulse, and pricking sensation of the skin, were added to the other symptoms which were continually

increasing in severity, when coffee was proposed. One gill of cold strong infusion of coffee was swallowed, and was retained about five minutes; the distressing symptoms, however, were by it abated, the nausea in part subdued, as was also the sensation of rigidity of the muscles; and the occasional repetition of this simple remedy during the course of the night completely removed all the distressing symptoms. Dr. Fosgate states, that, whilst suffering from the severe nausea, but previous to the exhibition of the coffee, his mind was depressed, and he felt considerable anxiety, no pleasurable sensations or reveries having been felt. But after the draughts of coffee, the depression of mind and all anxiety vanished, and there succeeded that exquisite revelling of the imagination so much sought after by the opium eater. This state continued for five or six hours, and was succeeded by sound sleep, on awaking from which he experienced a few hours of lassitude. The morphia had been taken after eighteen hours fasting.

Edinburgh Medical and Surgical Journal, Jan. 1842, *p.* 259.

25.—ON THE PRACTICE OF ELECTRO-PUNCTURE.

By Dr. Dunglison, Professor of the Institutes of Medicine and Materia Medica, Philadelphia.

This consists in a union of acupuncturation with electricity. The idea of the conjunction appears to have originated with Berlioz; but Sarlandiere was doubtless the first who put it in practice, although J. Cloquet has contested the priority with him—a matter, by the way, as in all such cases, of extremely small moment. The operation consists in employing acupuncturation in the usual way, either with a single needle, or with two or more, and making a communication between them and the prime conductor of an electrical machine; or they may be made to form a part of the circuit in the discharge of a Leyden jar. In this way, the electrical influence may be graduated from the simple aura to a full shock. Sarlandiere appears to have employed electro-puncture with great success; but he restricts its use to rheumatic or neuralgic pains, uncomplicated with organic mischief or inflammation; when such complications exist, he advises blood-letting and general antiphlogistics to be premised.

Guersent thinks it better, in all these cases, to use simple acupuncturation, and only to employ electro-puncture, when the first proves to be inadequate, as in paralysis, and in tremors produced by the immoderate use of mercury; in all cases, indeed, in which the malady depends on a diminution of the nervous energy. A case of success from its use, in paralysis of the right arm, in which voluntary motion and sensibility were destroyed, has been published. (*Lancette Francaise, Dec.* 20, 1836.)..

Magendie affirms, that he has treated many cases of incomplete amaurosis with great success by this agency. He employed it, however, in the form of what has been more properly termed galvano-puncture,—by fixing a needle in the frontal nerve, and another in the superior maxillary, and making these communicate respectively with the poles of a galvanic pile of twelve pairs of plates, each six inches square. Whenever the contact was made, the patient experienced a painful commotion in the course of the nerves, and at the bottom of the orbit; the light became better appreciated, and the pupil contracted....

M. Leroy d'Etioles has suggested galvano-puncture, in cases of asphyxia, in a manner which, at the first aspect, appears most formidable; but which is really less so than it seems to be, in consequence of the impunity with which fine needles can be made to penetrate, as we have seen, even the most important organs. He introduced an acupuncture needle on each

side between the eighth and ninth ribs, until it reached the fibres of the diaphragm. He then established a galvanic current between the needles, by means of a pile of twenty-five or thirty pairs of plates, an inch in diameter. The diaphragm immediately contracted, and an inspiration was accomplished. He then interrupted the circle, when the diaphragm, urged by the weight of the abdominal viscera, and aided by gentle pressure made on the abdomen by the hand, returned to its former position, and an expiration was effected. In this way, the two respiratory acts were made to succeed each other, and regular respiration was reinduced. A continuous current was likewise employed in some cases, but the respiratory movements were irregular, and nothing like natural respiration resulted.

Leroy tried his method on animals asphyxied by submersion, and when hey had not been under water more than five minutes, they were often restored.

These experiments were witnessed by Magendie. On different occasions, M. Leroy asphyxied animals of the same kind, and apparently of the same strength, and whilst those that were left to themselves perished, those that were treated by galvanism recovered.

As an aid, therefore, to pulmonary insufflation, and an important one, galvanism, combined or not with acupuncturation, might be advantageously employed in asphyxia, but as has been already remarked, it can rarely be available. Certainly no time should be lost in adopting the other energetic and indispensible measures that are demanded. It has been recommended, that as only a very small apparatus is necessary, batteries, consisting of a few plates, might be kept wherever there are station-houses for the reception of persons in a state of asphyxia. The suggestion is good; and they might also with propriety, form a part of the cabinet of apparatus of the private practitioner; but whilst an assistant is preparing an apparatus for action, the practitioner should be assiduously engaged in applying other means of resucitation.

London and Edinburgh Monthly Journal of Medical Science, Jan. 1842, *p.* 49.

[The same author makes the following remarks on *Mustard-seed Oil*:]

Mustard-seed oil may be applied either externally or internally. For the first object, Dr. Meyer advises a solution in rectified spirit (twenty-four drops to the ounce), or in oil of almonds (five or six drops to the drachm of oil of almonds.) In Berlin the first of these is used. Even this solution exhales so strongly the characteristic odour of the mustard, that simply smelling it induces a sense of pungency in the nose, as well as tears in the eyes. Owing to the great volatility of this oil, its properties and efficacy are soon lost; and the strength of the spirituous solution becomes less and less, when the fluid is preserved for a long time in vessels that are not accurately closed, or are frequently opened for the administration of the remedy, and afterwards are not carefully attended to. It is therefore advisible in practice, that only small quantities should be prescribed at a time, and that these should be kept in well-closed vials, and in a cool place.

The mode of external administration may be one of two, according to the sensibility of the skin, and the effect it may be desirable to induce. It may consist either in rubbing the liquid on a part of the surface, or in applying strips of linen wetted with the solution. The first method is advisable where the skin is delicate, as in the case of women and children, and in those whose healthy sensibility has not been diminished, as by paralytic affections. The fluid, when rubbed on the skin, very quickly evaporates, in the course of a few minutes, and excites a vivid sensation of burning, with bright redness of the surface, which disappears in the course of a few hours at the farthest.

The augmented sensibility, produced by friction, with the solution of the oil, continues generally for a longer period; and consequently, if a fresh application be needed at a short interval—say in from four to six hours—it must be made on the neighbouring parts, avoiding those first implicated. It is sufficient to use the remedy in this manner two or three times a-day.

The application of the oil by means of strips of linen, is adapted for skins such as those of men, which are thicker, and less sensible, as well as for morbid cases in which the healthy sensibility has been depressed. The size and shape of the strips must be determined by circumstances. The linen is dipped in the solution, placed upon the prescribed portion of the skin, and suffered to dry, which generally happens in about eight minutes. Burning pain immediately succeeds the application, and is often so insupportable, that the patients object to wait until the linen is dry, and it has to be removed earlier. Besides the more violent pain produced by this mode of applying the oil, the redness of the skin is much greater, and in many cases vesication succeeds.

Ibid, p. 81.

26.—ON LARGE DOSES OF QUINIA IN INTERMITTING FEVER.

By Austin Flint, M.D., of Buffalo, New-York.

[In article 112, and page 140, of our fourth number, Dr. Allan is related to have produced the most decided effects on intermittent fever, at Port Lewis, by large doses of the Sulphate of Quinine, twenty or twenty-five grains at once; and in another part of the world we find another practitioner pursuing the same practice with similar success. And although this mode of treatment is not particularly new, Dr. Elliotson strongly recommending it, we believe it is not so generally adopted as it ought to be. Dr. Flint pursues this practice without any preliminary treatment.]

Commencing with five grains, and repeating it in twenty or thirty minutes, the amount was increased until twenty, thirty, and in one case, even forty grains was administered in half an hour. After satisfying myself, not only of the safety, but in many cases, the superiority of this plan of treatment, my usual course was to prescribe eight, ten, or fifteen grains, and if no unpleasant results followed, repeating it in from twenty to sixty minutes, whenever doubt was entertained concerning the ability of the patient to bear the whole quantity which I wished to administer during the apyrexia. But experience having shown that no inconvenience of any moment followed the exhibition of twenty or thirty grains within a short space of time, I was afterwards in the habit, in the majority of cases, especially when the patients were not retained in hospital, of prescribing at once these quantities.

Analysis of thirty-three cases occurring at Poinsett Barracks treated with sulphate of quinia in large doses.—Three only of these cases were primary attacks. In eleven cases the disease had occurred only once previously. Of these, in one instance, the first attack preceded by four years; in one, six years; in all the others, a few weeks or months only had intervened. In seven cases the disease had occurred twice previously. Of these, the first preceded the third two years, in one case; and in all the others the two previous attacks were of recent date. In ten cases the disease had been of long date, and had recurred numerous times. In two cases no record was made of the previous history.

Of the Type.—Twelve of the cases were of the tertian type; thirteen were of the quotidian type. In eight the type was not definitely known,

the disease being checked after a single paroxysm. This latter circumstance could hardly have occurred excepting at a military station, where application for relief is almost invariably made on the first access of disease.

Complications.—Thirteen of the cases were complicated with catarrh; one with diarrhœa; one with otitis. In seven, the pulse in apyrexia is recorded accelerated; in four, the tongue coated; in five, the tongue furred; in seven, anorexia is recorded; in eleven, lassitude; in five, cephalalgia. In two cases, pain in the chest on full inspiration existed; in one of these, sulphate of quinia ten grains, in conjunction with a sinapism, was prescribed, and the next day this complication was relieved; in the other, the quinia alone was prescribed, and the patient was returned for duty on the fifth day.

As the details of these cases were not made with any view to this analysis, it is probable that the minor complications, or, more properly, symptoms, such as the state of the tongue, appetite, &c., were not always recorded when the morbid deviations existed in a mild degree.

1. Of the doses of medicine exhibited on the first day after being received on the sick report, and the character of the disease determined.—Five grains, repeated in 20 minutes in one case; five grains, repeated in 30 minutes in one case; ten grains, repeated in 30 minutes in one case; ten grains, repeated in 4 hours in one case; five grains, morning, noon, and evening, in three cases; eight grains, morning, noon, and evening, in one case; five grains, morning, noon, and evening, in one case; twenty grains, morning, noon, and evening, in nine cases; twenty-five grains, morning, noon, and evening in five cases; fifteen grains, morning, noon, and evening, in four cases; forty grains, morning, noon, and evening, one case. Number of cases, 28.

2. On the second day.—Ten grains, repeated in 30 minutes, in one case; ten grains, repeated in 2 hours, in one case; ten grains, repeated in 1 hour, in one case; eight grains, repeated in 1 hour in two cases; twelve grains, repeated in 1 hour, in one case; ten grains, repeated in 1 hour, in one case; twenty grains, repeated in 1 hour, in four cases; fifteen grains, repeated in 1 hour, in eight cases. Number of cases, 19.

3. On the third day.—Ten grains, repeated in 30 minutes, in one case; ten grains, repeated in 4 hours, in one case; five grains, morning, noon, and evening, in three cases; fifteen grains, and in 4 hours, ten grains, in one case; ten grains, repeated in 4 hours, in one case; ten grains, repeated in 2 hours, in one case; ten grains, repeated in 2 hours, in four cases, twenty grains, repeated in 2 hours, in seven cases; fifteen grains, repeated in 2 hours, in three cases; twenty-five grains, repeated in 2 hours, in one case; eight grains, repeated in 2 hours in one case. Number of cases 23.

4. On the fourth day.—Eight grains morning, noon, and evening in two cases; eight grains morning, noon, and evening in one case; ten grains morning, noon, and evening in four cases; fifteen grains morning, noon, and evening in three cases; twenty grains morning, noon, and evening in two cases. Number of cases 12.

5. On the fifth day.—Eight grains morning, noon, and evening in one case; fifteen grains morning, noon, and evening in two cases; twenty grains morning, noon, and evening in two cases; twenty-five grains morning, noon, and evening in two cases; ten grains morning, noon, and evening in three cases.

6. On the sixth day.—Eight grains morning, noon, and evening in one case; fifteen grains repeated in 30 minutes in one case; ten grains repeated in 30 minutes in two cases; twenty grains repeated in 30 minutes in two cases; five grains repeated in 30 minutes in one case. Number of cases 7.

7. On the seventh day.—Ten grains repeated in 30 minutes in one case;

twenty grains repeated in 30 minutes in one case; five grains morning, noon, and evening in one case. Number of cases 3.

The quantity of Quinia thus administered to the patients collectively, amounts to 1684 grains. The mean quantity administered to the patients severally, will, therefore, be 51 1-33 grains. The maximum quantity administered to any patient is 103 grains. The minimum quantity 10 grains.

Of the immediate effects of the medicine.—No unpleasant effects worthy of record followed the administration in nineteen cases. Nausea occurred. apparently in consequence, in four cases; vomiting in one case; headache in four cases; temporary deafness in four cases; giddiness, or dizziness. in nine cases; buzzing, or ringing in the ears, in eight cases.

Effects upon the paroxysms.—In nine cases no paroxysm occurred after the first day of the administration of the specific; in eleven cases one subsequent paroxysm only occured; in five cases two only occurred; in one case three occurred; in one four occurred, the last of which is recorded extremely light; in no case was the treatment unsuccessful.

Of the time of remaining on the sick report.—In three cases the date of return to duty is not recorded. Of the remaining thirty the average period of continuance on the sick report is a trifle more than 5 1-2 days. The minimum period of any particular case is 3 days. The maximum period is eleven days.

[The general excitant effects of the quinia are said to be usually almost imperceptible. There are cases, however, in which it would be inadmissible, on account of the inflammatory state of the gastric mucous membrane, in which it would be well to administer the drug as an enema, as recommended by Dr. Elliotson.]

American Journal of Medical Science, Oct., 1841, *p.* 278.

27.—INFANTILE CONVULSIONS TREATED BY ICE TO THE SPINE.

By R. B. Todd, M.D., F.R.S., Professor of Anatomy and Physiology, King's College, &c.

[We need not remind the practitioner how necessary it is to keep in view correct principles in the treatment of convulsions, which are *symptoms* of disease, and not the disease itself. It is particularly necessary to ascertain their cause. Convulsions cannot occur without some affection of the medulla oblongata, or spinal cord, direct or indirect. The irritation or disease may be either in the brain itself or in some remote part, as in the gums from teething, or in the bowels from a variety of causes. The child which gave rise to the following observations of Dr. Todd, was convulsed before admission into the hospital. When admitted, the following were the symptoms:]

Total absence of consciousness; powerful convulsive twitchings of the flexor muscles of the right side, and also of the muscles of the face on the right side, and also of the muscles of the face on the same side; internal squinting; pupils natural; respiration heaving and difficult; deglutition impossible; action of the heart very rapid. Such were the symptoms, they were symptoms of irritation, and the first inquiry of the medical man should be, What is the cause of the irritation?

[The convulsions continued in spite of the usual treatment. The gums were freely lanced: the warm bath, a turpentine enema, cold to the head, leeches, &c., were in vain tried. Mr. Pincott, the resident assistant, then suggested the application of ice to the back of the neck and spine, "with the view of calming, by the sedative agency of cold, the irritable state of that portion of the cerebro-spinal axis which he rightly judged to be affected, the medulla oblongata and spinalis." The happiest results followed:]

Ice was applied in an ox-gullet along the course of the spine, extending from the occiput to the sacrum. Immediately on its application, the breathing became easier, the child sighed several times, the pulse fell rapidly, and in ten minutes the convulsions had entirely ceased. Consciousness was not immediately restored, but as soon as the convulsions were over, the child fell into a sound sleep. Next morning the child was quite conscious, but irritable; he was freely purged with a little calomel and jalap, and left the hospital quite well on the fourth day from his admission.

The result of this case was highly satisfactory, as affording a clear example of the good effects resulting from the sedative influence of cold. He would, however, impress upon them that an application thus made to the region of the irritated nervous centre was less likely to be useful, if the original irritant was not removed or diminished; and, therefore, it would not have been good practice to have applied the ice, unless the gums had been previously freely scarified, and means used to clear out the bowels.

London Lancet, April 30, 1842, p. 146.

28.—ON DIFFERENT PREPARATIONS OF IRON.

By Wm. Tyson, Esq., Ashbourne, Derbyshire.

The most valuable preparations of iron are those which have the deutoxide for their base, as in the mineral waters, and in the formula I am about to give you:

LIQUOR OXYSULPHATIS FERRI.

℞ Ferri sulphat, ℥ij. (or ℥iij.); Acidi Nitrici, ℥iij, Aquæ Dist., ℥ iss.

Tere diligenter per horæ quadrantem acidum nitricum ferro vitriolato, dein tenuim addendo aquam, per chartem cola, et fiant guttæ, e quibus capiat æger gtt. v—xij bis in dies ex infuso quassiæ vel aqua.

This form, I believe, was invented by Sylvester, about forty years ago, and has ever since that time been in constant use among the practitioners of Derbyshire. I wonder it has not been inserted into the Pharmacopœia, as it is by far the best and most powerful of all the preparations of iron. The oxygen of the nitric acid uniting with the sulphate of iron, forms a persulphate; at the same time the iron is converted into red oxide. As a medicine it far surpasses the tinc. ferri mur., and is never precipitates the oxide of iron. It is one of the most valuable restoratives in the debility and torpor of the liver, which remains after the successful treatment of hepatitis. Patients do not well bear above ten or twelve drops to a dose; and when given with small doses of sulphas magnesiæ, &c., it equals the purgative mineral waters. I think it will be found to be an antidote to prussic acid, as it instantly combines with it.

This form having the red oxide for its base, enables me to obtain some of the mildest, most efficacious, and beautiful of the preparations of iron.

FERRI BITARTRAS.

℞ Ferri Sulphatis, ℥iij.; Acidi Nitrici, ℥iss.

Tere simul guttatim:—cessata effervescentia, adde

Aquæ font., ℥vj.; Potassæ Supertart., ℥vj.

Coque, et liquorem tepidum per chartam cola; fiat sal sicuus, ea. Dosis, gr. v.—xx.

The sulphate of potass here produced, adds greatly to the efficacy of the medicine, rendering it gently aperient.

POTASSIO-TARTRAS FERRI.

℞ Ferri Sulphatis, ℥vj.; Acidi Nitrici, ℥iij.

Tere simul guttatim per horæ quadrantem, adde

Aquæ font., ℥vj.

Misce et per chartam cola, cui adde Potassæ carbonat, ℥vj.—et sepone per aliquot horas: liquorem supernatantem effunde, ex oxido precipitato adde

Bitartratis Potassæ, ℥iss.; Aquæ font., ℥viij. vel. q. s.

Decoque et per chartam cola: leni calore consumatur liquor ad pulverem siccum. Dose, the same.

These two preparations dissolved in boiling water, continue in solution when cold.

AMMONIO-TARTRAS FERRI.

℞ Acidi tartarici, ℥ij.; Ammoniæ carb., ℥j.; Aquæ font., ℥vj. vel. q. s. Misce fiat solutio.

℞ Liq. ferri oxysulph., ℥j.; Liq. Potassæ, q. s. M.

Wash the precipitate with distilled water upon a filter, add the oxide, while in the state of hydrate, to the above solution, and with a gentle heat, dissolve the iron, and evaporate to dryness. Vel,

℞ Liq oxysulphat. ferri, ℥j.; Potassæ subcarb., ℥iij.; Aquæ font., ℥vj. M.

The precipitated oxide to be treated as above. Dose—gr. v. x.

Perfectly soluble in water. Contains about one grain in four of deutoxide of iron.

Here we have three preparations of tartrate of iron, which, when mixed with a due proportion of water, are remarkable for their solubility, and the beautiful golden colour of the solution; hence for elegant mixtures for medicinal purposes.

LIQUOR FERRI BINIODIDI.

℞ Potassæ hydriodat., ℥ss.; Aquæ puræ, ℥x. Misce, et adde Liq. ferri oxysulph., ℥ij. M.

Dose—gr. xx—xxx bis die.

This solution is of a beautiful deep red colour, and transparent. It contains, like most other iodides, a little free iodide; but retains its colour, and does not part with its iron; for I have some now by me which was made six years ago, and the only deposit is a little sulphate of potass. The liquor oxysulphatis ferri is also a test for the purity of hydriodate of potash, producing in the above proportions, a deep transparent solution.

LIQUOR FERRI DEUTOXIDI.

℞ Potassæ Carbonat., ℥ij.; Aceti., ℥iv, Misce, et adde Liq. ferri oxysulph., ℥j. M.

Capiat gtt. xxx—xl. bis terve die.

By long keeping deposits a peroxide.

This last form I have introduced here, chiefly as a valuable hint to the dyers: it is a speedy way of making acetate of iron, and contains the base of their most valuable colours, viz. the prussiates, gallates, &c.

In Medicine, as well as in the arts, much disappointment would be avoided, and much advantage gained, in attending to the base, that is to

say, to the state of oxidation of the mineral made use of; each oxide possessing essential properties, differing materially from each other. This we have already seen in the observations upon antimony and mercury; but it is more particularly evinced in the use of copper. In copper we have a valuable tonic and astringent in some cases of epilepsy, chorea, and uterine hæmorrhage; but nearly all the preparations now in use are unmanageable, as they contain peroxide, which is poisonous; while the protoxide is nearly inert. Even the ammoniaret, which is the mildest of them all, still requires the greatest care, as it also contains peroxide.

The celebrated Boerhaave was in possession of a preparation of copper, with which he was very successful in the treatment of many diseases; and Cullen laments his having left behind him no form for the preparation. But in looking over his Praxis Medica, I suspect it was the muriate he made use of, which, he says, is the least disposed of any to excite vomiting, but of which I have no experience.

Pharmaceutical Transactions, No. 11, *p.* 598.

29.—ON DIABETES MELLITUS.

By Dr. George Budd, F.R.S., Professor of Medicine, King's College, &c.

[In our former numbers will be found several interesting notices of Diabetes, which show the great importance of studying urinary diseases, and the great value of Chemistry in the pathology of some diseases. The case which drew forth the following remarks from Dr. Budd, was that of Joseph Hawkesworth.

Diabetes generally commences obscurely, and probably the first symptom which attracts attention is the great quantity of urine which the patient voids, amounting to 10 or 12 pints instead of 30 or 40 ounces a-day. The urine is found not only to increase in quantity, but also in density. Instead of being within 1010 and 1020, which are probably the limits of health, the specific gravity usually ranges between 1035 and 1045, and in some instances it even amounts to 1055. There must, therefore, be a great discharge of solid matter from the blood. Dr. Christison has calculated that two and a half ounces of solid matter are daily discharged from the blood of a person in health, of which nearly one half is urea. Calculating from Dr. Henry's table inserted in Dr. Prout's work, Hawkesworth parted with 20 ounces of solid matter daily, of which a great portion was sugar, which, in all these cases, resembles the *low* sugar of grapes.

It was at one time supposed that urea was entirely wanting in diabetic urine; but this opinion is not correct. Macgregor, Christison, and Bouchardat have established the fact that the quantity of urea is more frequently above the healthy standard than below it. "It was at one time supposed that the sugar found in the urine in diabetes, was produced by disordered action of the kidneys; but this supposition has been lately disproved by the interesting discovery that sugar exists in the blood likewise," Dr. Maitland having obtained crystals of pure sugar from the blood of a diabetic patient. Another recent discovery, is that by Mr. Macgregor, namely, that sugar is formed in abundance in the stomach, by the process of digestion: the blood, therefore, in this case must be the channel through which it finds its way to the kidney. At the same time, it is not always easy to find any considerable quantity of sugar in the blood after death, as it passes off by the kidneys with remarkable rapidity; and the same observation applies to urea, so that no accumulation of either of these bodies is ever found in the blood at any one time. Diabetes, therefore, must not be considered a dis-

ease of the kidneys, the sugar being merely eliminated by them, and they being frequently in a perfectly healthy state during the existence of the disease.]

The formation of sugar in the process of digestion, and the absorption of this sugar into the blood, are therefore, cardinal facts in the pathology of diabetes; and to explain these, must be the prime object of all theories of the disease. Let us now see with what success this object has been fulfilled by writers on the subject.

According to Dr. Prout, who is justly regarded as high authority in these matters, diabetes may be said to originate in loss of the power to assimilate the saccharine principles we take as food.

Under the term "saccharine principles," are included sugar itself, and a large class of substances, which, from being easily convertible into sugar, and almost identical with it in chemical composition, may be regarded as its equivalents. These are mostly derived from the vegetable kingdom. The chief of them, considered as aliments, are woody fibre (the bran of corn, and fibres of other vegetables), gum and starch; but the most important of these is starch.

In a state of health, all these forms of vegetable matter, which constitute a large proportion of our daily food, are capable of being digested and assimilated; that is, of being converted into the constituents of blood, and thence into the several tissues of which our bodies are made up.

Now, according to Dr. Prout, they are all in *healthy* digestion, first reduced to a *low* sugar; but this is only a transition state, and the sugar thus formed, is at once converted into albuminous and oleaginous principles. Its existence in the stomach being, according to this theory, only intermediate and momentary, cannot readily be made a matter of experimental demonstration.

The first steps, therefore, in the derangements in diabetes, consists, according to the writer, not in the formation of sugar in the stomach, which he considers a *healthy* process; but in the loss of that power which should convert the sugar so formed into the constituent principles of the blood, and through them into the living tissues of the body. He further believes, that, in advanced stages of the disease, sugar is not only formed in the stomach by the process of digestion, but that it is generated in other parts of the body from deranged assimilation, especially of the gelatinous tissues.

He considers the disease, then, to consist essentially in impairment or loss of this converting or organizing function of the assimilating organs.

[Bouchardat's theory (which is given in the 20th article, p. 59) is different to this, but is evidently too chemical. He supposes that diabetes originates in suppressed perspiration, and vicarious secretion of acid from the mucous membranes and glands of the digestive apparatus. But we must not be led away too much by the rapid progress of organic chemistry, and "fancy that chemistry is all sufficient to explain the phenomena of life—that, as has been advanced by a distinguished French chemist, man, like a steam-engine, is an apparatus that owes all its activity and all its power to the combustion of carbon." Dr. Budd goes on to remark:]

In the treatment of diabetes, according to the view I have taken of the pathology of the disease, we have two objects to aim at. The first and highest, is to strengthen the digestive and assimilating functions, in the impairment of which the disease seems essentially to consist; the second, to prevent, as far as possible, as long as the depraved digestion continues, the formation of sugar in the stomach, which, as I have already explained to you, seems to be the source of most of the other evils.

[The first of these objects must chiefly be attained by attention to the general health.]

In our endeavours to accomplish the second object—namely, to prevent the formation of sugar in the stomach—we are far more successful. We cannot, indeed, do this by medicines, but we can restrict the patient to food from which sugar cannot be readily formed. In this way, as I have already explained to you, we stay the emaciation and retard the progress of the disease; and although we exert no influence positively curative, we at least give time for the curative efforts of nature. As long, therefore, as the impairment of digestion continues, the patient should abstain from sugar, and as much as possible from all those principles, as starch, and the vegetable gums and mucilages, which have nearly the same composition as sugar, and are readily converted into it. It was maintained by Dr. Rollo, who was one of the first to show the importance of diet in the treatment of diabetes, that the patient for some time, at least, should subsist entirely on animal food; and if we may judge from the cases published by him in support of his opinion, such a plan, if it could be carried out, offers a fairer chance of success than any other that has yet been tried. We might not, indeed, by this prevent entirely the formation of sugar, because gelantine passes into sugar under the influence of various chemical agents, though not nearly so readily as starch. But it has been found impossible by most men, to restrain their diabetic patients to a diet exclusively animal. After a few days' restriction to such a diet, the craving for vegetable food of some kind, becomes such that no fears for the future will deter the patient from indulging in it.

In consequence of this, most physicians have relaxed the rigour of Rollo's treatment, and in addition to animal food, and oleaginous matters, which often agree well, have allowed the patient bread, and other articles made of the flour of wheat; which is supposed by Dr. Prout to be more easily assimilated than most other farinaceous matters.

But even of the articles thus granted him, he is not allowed to take unsparingly. The craving appetite, so general in diabetes, would often lead him to overload the stomach, and increase the disorder of digestion. He is, therefore, cautioned not to take too much at a time.

Besides attention to diet, on which we must mainly rely, various other means have been found useful. The chief of these are bleeding, opiates, and tonics.

At an early stage of diabetes, when, as often happens, the system is in a feverish state, general bleeding produces great relief, and manifestly retards the progress of the disorder. In more advanced stages, when we are deterred, by the absence of fever, and by the weakness of the patient, from bleeding from the arm, cupping over the stomach, or an application of leeches, will frequently lessen the sense of heat or other uncomfortable feelings, so often referred to that part.

The effect of opiates in mitigating the symptoms of diabetes, is still more striking. They are beneficial in every stage of the malady, and happily are not incompatible with any of the other means that have been found of service. They should, therefore, form part of every plan of treatment

Tonics of various kinds—preparations of iron, quinine, carbonate of ammonia—have been much recommended, and are, no doubt, beneficial when the exhausting influence of the malady has been long continued. Their good effects are, however, far less obvious than those of opiates.

[Hawkesworth, on entering the hospital, was particularly cautioned against taking sugar, fruits, and vegetables, and was restricted to a diet of meat and bread, and for drink, beef-tea, and a pint of porter

daily: and acting on the opinion of M. Bouchardat, the action of the skin was restored by a warm flannel dress, and a hot-air bath, which was repeated once or twice a-week.]

On the 27th of December, again acting on the advice of M. Bouchardat, we deprived him of ordinary bread, which he had hitherto been taking, and gave him instead, what M. Bouchardat calls gluten-bread—that is, bread made of flour that has been deprived of the chief part of its starch. The flour of wheat is composed of gluten and starch, in the proportion of one of the former, to three or four of the latter; and the two principles may be readily separated by washing out the starch from dough.

It appears from some recent experiments of Magendie, that gluten extracted from wheat flour is of itself sufficient for the nourishment of dogs; and it seems probable, therefore, that a diet of animal food and gluten contains all that is requisite for the support of man—at least, for a considerable time. But bread made of pure gluten is so leathery—so glutinous—that it is impossible to masticate it. In order to make any thing that can be called bread, we are obliged to leave a certain proportion of starch with the gluten. The gluten-bread that we have given Hawkesworth, is made by Mr. Bullock, a chemist in Conduit-street, London. In the first samples he sent there was one-sixth of the natural quantity of starch. In order to render it more dry and crisp the bread was made into rusks: but even in this state it was rather difficult to masticate, and Hawkesworth made great complaint of it.

Latterly, one-fifth of the natural proportion of starch, which is, I believe, the proportion recommended by Bouchardat, has been left with the gluten; and since this change was made, Hawkesworth has been very contented with his bread. The bread is light, and when toasted, is almost as agreeable to the taste as ordinary bread.

The substitution of the gluten-bread for ordinary bread was immediately followed by diminution in the quantity of urine, which was at once brought down to about four pints a-day. The sp. gravity, however, continued as before, about 1040.

On the 4th of January we found a sudden increase in the quantity and in the density of the urine; and, after much close questioning, we discovered that he had been eating some rice pudding, which contains sugar, and which the nurse, yielding to his entreaties, had given him.

This is the second time, since his admission to the hospital, that our endeavours to carry out this treatment have been frustrated by want of resolution on the part of the patient: and this you will find constantly happening in diabetes. In confirmed stages of the disease the patient becomes irresolute and childish, and has no strength of mind to resist the cravings of his appetite. This peculiar imbecility of mind is probably in some measure connected with the defective nutrition of the brain, which is so remarkable in advanced stages of diabetes. In the bodies of persons dead of this disease, the brain is always very remarkably shrunk; in consequence, no doubt, of the great wasting of all fatty matter. The void left, is, as usual, filled up with serum.

Since the 4th of January the quantity of urine has on one occasion been so little as two pints and a half in twenty-four hours; but it has averaged about four pints. It has regained in some degree the natural urinous odour; but the sp. gr. has not at all diminished. It is now seldom less than 1040, and on some days 1045.

Since he commenced the gluten-bread, the general symptoms of diabetes have much diminished: the appetite has become less, and the thirst is very slight, except in the morning before breakfast: his complexion is less sallow than it was, and his tongue cleaner: he says that he is much stronger, and he has certainly ceased to lose flesh.

It is evident, however, that the treatment is only palliative. The urine has still the high sp. gr. of diabetes; and the quantity he passes is as much charged with sugar as ever. All that we effect by the gluten-bread is, to carry out more fully, and for a longer time than we have yet been able to do, the principle of depriving the patient of articles of food readily convertible into sugar; but we do not restore to the stomach the power of healthy digestion. We relieve the thirst, retard the emaciation, and prevent, perhaps, for a time the occurrence of tuberculous disease of the lungs: we give longer time for the action of medicines, or for the *vis medicatrix naturæ*. This is certainly no slight advantage: it is, in fact, as much as we ever accomplish in strictly organic disease.

It seems probable, therefore, that bread made of flour deprived of a certain portion of its starch, will in future form an essential part of the dietetic treatment of diabetes.

Medical Gazette, April 22, 1842, *p.* 164.

M. Bravais, médicin de l'hospice de l'Ammonay, has narrated two very interesting cases of complete cure of diabetes mellitus, though in one it was complicated with a tubercular deposition in the right lung.

The latter case was complicated with, and indeed commenced with, retention of urine; and the patient aged 67 years. He began in October, 1840. The symptoms of diabetes mellitus declared themselves decidedly on the 14th of November; on the 18th, the plan of M. Bouchardat was followed out in all its rigor.

The following articles of food were strictly proscribed, bread, potatoes rice, barley, vermicelli, haricots, sugar, apples, pears, raisins, and all food gummy, saccharine, or fecalent.

These articles of food were allowed:—animal nutriment, beef, mutton, fowls, and bacon, milk in every form, eggs, cheese, chocolate (without sugar), occasionally spinnage, chicory, sorrel, salades, cabbage and onions.

[We suspect that some of the articles in this list, especially spinnage, would prove injurious to the patient; but still, it is interesting to observe the food used in a successful case, as from a want of variety in the food allowed, we often find that the patient secretly has recourse to matters still more injurious].

The patient was constantly tormented with thirst, and desire for cold, fresh water, but this I never allowed without its being charged with some nutritive principle, or tonic medicine. On the 1st of December, 13 days after the treatment was begun, the urine was reduced one litre a day, having before averaged from eight to ten litres in the 24 hours. At first it contained twenty grammes of yellow insipid sugar in the three litres, on the 8th of December, twenty-two grammes in six litres of urine.

The treatment was continued with occasional administration of opium and camphor. He had only one relapse, from taking sugar in his coffee.

His improvement was progressive; in January he began to eat rice, in February and March, he took potatoes and sugar, and yet the disease did not return, but he gradually regained his *embonpoint*. From the first of April he has used with impunity all kinds of diet.

Deductions.—The treatment in diabetes should always be tonic and excitant, never the reverse. The diet should be as strictly animal as possible. and *this disease is one in which we should not be guided by the patient's repugnance to any article of food.* The treatment should be continued a long time, even after the patient considers himself quite cured; if not he is in danger of relapse.

Journal des Connaissances Medico-Chirurgicales.

30.—DIACETATE OF LEAD IN INTERNAL HÆMORRHAGE.

By —— Sweeting, Esq.

Mr. Sweeting is of opinion that this remedy has been administered in inefficient doses, and with objectional combinations. Mr. S.'s practice is to give it in five grain doses, every two, three, or four hours, according to circumstances. "The last case," he observes, "in which I employed the diacetate was one of uterine hæmorrhage consequent upon abortion. The woman had miscarried the day before I saw her; she had lost a large quantity of blood, and the hæmorrhage was still going on; she was pale, restless, sick, and the pulse scarcely perceptible at the wrist.

I immediately gave her five grains of the diacetate dissolved in distilled water, and repeated it every hour for twelve consecutive hours, and upon an abatement of the hæmorrhage, continued it every four hours for the next twenty-four; the woman recovered.

The diacetate should be rubbed up with a few drops of concentrated pyroligneous acid, in order to ensure a complete solution of any carburate of lead, distilled water added, and the whole filtered through paper: with these precautions no ill effects need be feared.

A young gentleman labouring under typhus fever was attacked with diarrhœa and discharge of blood from the bowels, the diacetate in the full dose was administered, and both hæmorrhage and diarrhœa were restrained after two doses. He recovered.

About two years since I was called to a man in this village labouring under a clearly marked case of Asiatic cholera. He had been attacked at seven in the morning, but I was not sent for till noon, when I found him pale, pulseless, cold, and all but in that frightful state of collapse denominated the blue stage. I gave him five grains of the diacetate immediately; the draught was at once rejected. I then administered one grain every ten minutes in a teaspoonful of acidulated water. After he had taken the medicine for the space of two hours, the spasms wholly left him, with every symptom of immediate danger, and the man speedily recovered."—*Provincial Medical and Surgical Journal. Aug.* 14, 1841.

American Journal of Medical Science, Oct. 1841, *p.* 465.

31.—ON POISONING BY LAUDANUM.

By Dr. Buck.

The following case related by Dr. Buck, in the Boston Med. and Surg. Jour. March 31, 1841, deserves notice if for no other reason than for the novelty of the treatment employed. A young female aged 22, swallowed an ounce of laudanum. The ordinary symptoms soon succeeded. There was a state of almost perfect insensibility, the face livid and swollen, pulse slow, not exceeding 45 in a minute, and the jaws firmly shut. Dr. Buck saw her in about half an hour, and prying the mouth open, put into it 40 grains of ipecac., and as much of sulphate of zinc, in half a gill of water. He repeated this dose at intervals of ten or fifteen minutes, five times, using 200 grains of ipecac. and as much sulphate of zinc. It is doubtful, however, whether any was swallowed. In half an hour, as no change had occurred, he injected into the stomach through an elastic catheter, twelve grains of tartar emetic dissolved in half a gill of water. After waiting half an hour, and perceiving no symptoms of an operation, he threw down 24 grains of tartar emetic This in a short time induced a very feeble effort to vomit, and about half a gill of fluid was thrown up. But the symptoms became more alarming; the pulse was slower, and the face extremely livid

while respiration was nearly extinct. He now threw down sixty grains of sulphate of zinc dissolved in half a pint of water, but without any sensible effect.

Under these circumstances, seeing that there was no prospect of making her vomit by any ordinary means, I was resolved to make an experiment. I injected a pint of vinegar into the stomach, and immediately after it, a large teaspoon four times heaped full of salæratus, dissolved in half a pint of warm water. The effect was instantaneous. It broke forth foaming from the mouth in a stream of the full size of that orifice, with such a force as to be projected a yard or more. The quantity thrown up, I judged to be at least a quart, in a state of complete effervescence. In about fifteen minutes, as there was no further vomiting, I repeated the operation, using but half the quantity of vinegar with the same quantity of salæratus and water, with the same immediate effect, and then left her for the night, with directions to give her freely strong green tea, if she should recover sufficiently to drink.

Next morning, found her much prostrated, had vomited several times during the night, but was perfectly rational. She gradually recovered.

American Journal of Medical Science, Oct. 1841, *p.* 516.

32.—ON RHEUMATIC DERMALGIA

By J. H. S. Beau, Paris.

Neuralgia of the skin has hitherto been usually confounded with pains of the nervous trunks, muscles, &c. M. Piorry was the first who referred it to a separate head under the name of *dermalgia*. It frequently coexists with neuralgia of the nervous trunks, with ramolissement of the brain; or occurs in cases of inflammation of the spinal cord. Severe pain in the uterus is often attended with dermalgia of the skin of the pelvis and thighs, and clavus hystericus is frequently a neuralgic affection of the skin.

There are several other forms of this affection, but one which has escaped notice down to the present time is rheumatic dermalgia. This is of more frequent occurrence among men than women, and is induced by damp, cold, and those other causes to which rheumatism is generally owing. Hence it is most common at the beginning of spring. The head and lower extremities are the parts usually attacked, but the pain is not stationary in one place; often changing its seat in a gradual manner, just as erysipelas sometimes wanders from place to place. Patients experience two kinds of pain, the one abiding, the other intermittent and severe, resembling the prick of a pin or an electric shock, and recurring about every thirty seconds. The abiding pain is frequently little more than a permanent exaltation of the natural sensibility of the skin. Friction of the part with the finger or with the patient's dress, always increases the pain; and if the affected part is covered with hair, very severe suffering may be produced by passing the hand over the hair. The intermittent pain is often at once excited by touching the part in this manner, and though firmer pressure puts a stop to the permanent pain, the return of the intermittent pain cannot be thus prevented. The intermittent pain is always considerably worse at night. Rheumatism of the skin usually alternates with that form of the disease which affects the muscular and fibrous tissues. Its usual duration is from a day to a couple of days, and it subsides by degrees just in the same way as it made its attack. The author met with three instances in which it was accompanied with fever, and involved a much larger surface of skin than usual. It is, in general, an affection easily curable. The indications for its treatment do not differ from those to be observed in ordinary rheumatism, but it does not generally require any

very active remedial measures. To prevent its recurrence, it is always desirable for the patient to wear flannel next his skin.—*Arch. Gen. de Med.*, and *Brit. and For. Med. Review.*

Medical Gazette, Feb 25, 1842, *p.* 879. *See also, Provincial Medical and Surgical Journal, Jan.* 29, 1842, *p.* 361.

[Nearly allied to this form in many respects is the Muscular Rheumatism described in Dr. Macleod's recent, work on rheumatism.]

This form of the disease consists, in the milder cases, of a dull uneasiness in the part while at rest, which, however, becomes converted into an acute cutting pain when moved. Sometimes, indeed frequently, there is no discomfort except on calling certain muscles into action, and if this, from forgetfulness or other cause, be done abruptly, the suffering is often so acute as to make the patient cry out involuntarily.

Lumbago is a very characteristic form of muscular rheumatism. It occupies the loins, and is often aggravated to torture by an unguarded movement implicating the muscles of the part; but if the patient remain perfectly quiet, he is comparatively free from suffering. When very severe, he may be obliged to remain in bed, and very often is confined to the sofa. Even when he is able to walk about, he often does so in a semibent position, being unable to raise his body into a complete erect posture for some time after he has risen; nay, in some cases he cannot straighten himself at all.

Pain of exactly the same character not unfrequently attacks the muscles of one side of the neck, and the head is generally held awry to relieve the suffering part. Either of these may be brought on by sitting in a draught, or otherwise exposing the parts to cold, especially if combined with moisture.

Another very frequent seat of muscular rheumatism is the intercostal space, where it is difficult to say whether the muscular or fibrous tissues are involved; and indeed the pain on inspiration is often as acute as a stitch of pleurisy. From this, however, it is easily distinguished by the absence of pain, and the complete relief afforded by fixing the ribs, and breathing with the abdominal muscles.

I have also more than once seen the same kind of affection in the abdominal muscles, the pain being completely controlled by putting a roller tightly round the body, or otherwise preventing the muscles from acting.

[In this, as indeed in all forms of rheumatism, the pain is much greater in the night than in the day. The obstinacy of chronic muscular rheumatism is proverbial, and is much aggravated by atmospherical vicissitudes It often occasions, when long continued, a wasting of the limb.]

Purgatives are very frequently of great service in the different forms of muscular rheumatism, more particularly in lumbago, and as a general rule ought to precede the use of other remedies. The best plan, where there is nothing to contra-indicate its adoption, is to give from three to four grains of calomel at night, followed by a black dose next morning, and to repeat this once or twice during the first week; after which it is sufficient to regulate the action of the bowels, and to give rather a brisk purgative about once a-week.

But in the kind of rheumatism to which I now refer, where it has not been preceded by the acute stage, and where the muscles are chiefly affected, remedies of the warm or stimulating kind are decidedly most useful. Among these, none has appeared to me to be so frequently efficacious as the ammoniated tincture of guaiacum. Half a drachm is a sufficient dose with which to begin; but most persons bear—and indeed require—a

drachm, three times a day, and with some it is necessary to increase the dose to two drachms or more. The most common sensible effect is that of purging the bowels, and where this is the case to any great extent, the dose must either be diminished or discontinued. In most patients, however, it may be so managed as to regulate the alvine evacuations; and the tendency to diarrhœa may be prevented without inconvenience, by means of opium, which, in doses of about a grain each night, may assist materially in the curative process. There are two other forms in which this remedy has been frequently used in rheumatism, namely, the mistura guaiaci, and the compound familiarly called the 'Chelsea pensioner.' The first I think less efficient in this form of the disease than the ammoniated tincture; the latter (composed of guaiac, rhubarb, cream of tartar, sulphur and nutmeg,) may be substituted with advantage for the tincture in those cases which prove very obstinate and lingering. The general effects which the remedy produces in any form which agrees with the patient, and which is likely to prove serviceable, are an agreeable sense of warmth in the stomach, followed by moderate perspiration, or, where the surface is kept cool, by increased action of the kidneys. In full doses it sometimes produces an eruption on the skin like urticaria; but I have never seen any serious inconvenience result from this.

Medico-Chirurgical Review, April, 1842, *p.* 420.

33.—CROTON OIL IN TIC-DOULOUREUX, &c.

By J. A. Easton, M.D., Professor of Materia Medica, in Anderson's University, &c., Glasgow.

[A good deal has been written of late concerning the efficacy of this drug in different nervous affections. In article 11, Retrospect No. III., will be found an account of the experience of Dr. Newbigging, of Edinburgh. Sir Charles Bell we believe, was the first to point out its efficacy in tic-douloureux. In his "Practical Essays," he makes the following remarks on this remedy: "Reviewing my experience, I am borne out in believing that the disturbed function of particular parts of the intestinal canal gives rise to pains, differing in their apparent places according to the portion of the canal irritated. Here, I conceive, there is a wide field for inquiry. If the intestinal canal is estimated at seven times the length of the body, and if it be also acknowledged that the different portions of this long tract of mucous membrane, perform distinct offices, and are subject to different influences, there is nothing to repel the idea, that these portions, being in a state of disturbance and irritation, shall produce a variety of symptoms, especially differing in their apparent locality. And this view is countenanced by the effect of medicine. We can throw the influence of evacuants on the different portions of the canal, affect the stomach, the duodenum, the long intestine, the colon, or the rectum. Thus is each portion of the intestine proved to be distinct in office, and to possess distinct affinities. It is on this principle that we ought to pursue the inquiry—*first*, on what part of the extended canal does this secret disturbance fall; and *secondly*, what form or combination of medicine shall especially touch or influence the part affected? We have an instance in the effect of the croton oil. Let us not call it a specific, but seek for other remedies on a just and scientific principle." —(*London and Edinburgh Monthly Journal of Med. Science. Feb.* 1842, *p.* 155.) In article 18, of Retrospect No. IV., Mr. Cochrane, of Edinburgh, gives an interesting account of its efficacy in other nervous affections, to which we advise the reader to refer; and in this article

a good case is given by Dr. Easton, of Glasgow, where its efficacy in tic-douloureux was remarkable. He relates the case as follows:]

Pain, represented as excruciating and darting, is experienced at stated periods in the left side of the scalp from forehead to vertex, while pressure on the trunk of the left supraorbital nerve augments his sufferings to an almost intolerable degree. The headache commences about five in the afternoon, and continues without intermission or abatement for fourteen hours, during which the patient is so distractedly agonised that he feels a strong desire to dash his head on the wall, or any other solid body that is within his reach. His friends state, that at this period he is slightly incoherent. With the termination of the dreaded fourteen hours, return tranquility of mind, and alleviation of pain. The bowels are regular, the pulse is 80, the skin cool, the tongue whitish; but it ought to be mentioned, that when these observations were noted, the headache, though severe was comparatively tolerable. The following was ordered:—

℞ Croton oil, gtts, ij; Compound extract of colocynth, gr. xij.

Make into four pills, of which let one be taken every two hours.

On the next day (the 11th,) the headache was greatly relieved, though by no means removed. The medicine, to use his own language, had produced "above forty stools" of a yellow colour and most offensive smell. The urine was greatly increased in quantity, and of a deep red colour. Desirous to follow up the success which had been evidently obtained, I ordered the pills to be repeated; but the severe purgation which they had induced formed an obstacle to their administration, which neither argument or entreaty could overcome. Under these circumstances the treatment at first adopted was abandoned.

[But the pain soon returned with equal violence, notwithstanding the exhibition of arsenical solution (eight drops increased to ten drops) three times a-day. The croton oil was ultimately tried again as follows:]

℞ Croton oil, gtts. ij; Crumb of bread, q. s.
Make into four pills; one to be taken every three hours.

15. Pain of head did not return until five hours after the usual period, and when it did commence, was less severe; alvine evacuations frequent, but neither so copious nor so offensively fœtid as formerly, and of natural colour; urine greatly increased in quantity. Continue the pills.

16. Had only four hours of pain which was moderate and tolerable; alvine evacuations abundant, but not profuse; no note of state or amount of urine. Continue the pills.

17. Has had no headache since last visit; slept well last night, and is refreshed, composed, and cheerful. Take one pill night and morning.

18. No return of headache; feels perfectly well, and is anxious to resume business. Pills produced no greater action upon the bowels than what an ordinary laxative might have been supposed to have induced.

24. Continues free from headache up this date.

[This patient had had recourse to severe purging before taking the oil, but had experienced no particular benefit, so that we may suppose that there is some specific virtue in the medicine independent of its purgative qualities. One circumstance is generally noticed during its exhibition, namely, the urine is increased in quantity, and is evidently denser than usual, and the alvine evacuations are of a yellow colour and most offensive smell.]

Now these are precisely the more important physiological actions of *colchicum autumnale*, so valuable an agent in articular rheumatism, to

which, in my opinion, neuralgia bears a strong resemblance. The seat of this latter ailment is, I conceive, in the fibrous neurilema, while under the influence of that modified form of inflammation which is set up in the fibrous structures of the joints when they are attacked with rheumatism. Not only does identity of tissue support this view of the pathology of the disease, but similarly of symptoms also, particularly the characteristic tendency in both maladies to periodical exacerbations and to intervals of comparative repose. Dr. Lewins, of Leith,* has demonstrated from chemical analysis, that by the exhibition of the meadow-saffron the specific gravity of the urine occasionally rises from 1 009 to as high as 1·037: and that the cause of this increased density is the augmentation of urea and of urate of ammonia, results which Dr. Lewins tells us have been verified by Professor Chelius, of Heidelberg. By the influence of colchicum also, as well as by that of croton tiglium, the alvine evacuations assume a bright yellow colour, the liver being stimulated apparently through the duodenum, in accordance with the physiological law, that when a membrane is irritated on which an excretory duct opens, the gland from which that duct proceeds is excited to unusual secerning activity. Can it be, then, that the croton tiglium is similar in its action to the colchicum autumnale, and that it does good in *tic douloureux* by inducing the same effects that colchicum does when it alleviates the sufferings of the gouty and the rheumatic—by eliminating urea and uric acid salts through the urine when these highly nitrogenous productions of the blood are in excess, and thereby the sources of constitutional irritation, and also by causing a supersecretion of bile? We know that colchicum is an invaluable remedy in fibrous or articular rheumatism; and if I am correct as to the pathology of neuralgia, and if croton oil is beneficial in that disease, is it unreasonable to suppose that two remedies which cure similar complaints should do so in a similar manner?

London Lancet, Jan. 29, 1842, p. 622.

34.—RAPID VESICATION AND COUNTER-IRRITATION BY BURNING ÆTHER, &c.

By C. J. Edwards, Esq. Surgeon to the Bathcaston Lying-in-Charity.

[In cases which require very rapid and energetic counter-irritation, the practice of Mr. Edwards may occasionally be resorted to—viz. that of rubbing æther, spirits of wine, or any other spirituous application on the part intended to be blistered, and then setting fire to it; in short it is another way of applying the actual cautery. In one case of the convulsions, Mr. Edwards says:]

As a last resource, I rubbed the spine with gin, from the cervical to the lumbar region, and set it on fire; in less than half a minute the convulsions ceased. The boy was now put into a blanket, carried to bed, purged freely, and in a few days was convalescent; he was about eight years old.

A similar case was that of a daughter of a solicitor. The cause producing the convulsions resisted measures equally vigorous to those which were used in the first patient. The amiable mother, who, unfortunately, had been taught too severe a lesson in the trying school of her children's sicknesses, had already applied numerous leeches to the head of the sufferer, and given a smart dose of calomel and scammony; all our remedies seemed powerless, when I sent for the sulphuric æther, and, rubbing

*On Colchicum Autumnale, in the Edinburgh Medical and Surgical Journal for July, 1841; and Braithwaite's Retrospect, No. IV, Art. 2.

it on the spine, set fire to it. The convulsions soon ceased, the child gave a heavy sigh; the danger had passed. I should observe that this young lady, when on a visit in Bath, had an attack equally severe to that in which my professional services were required. The same powerful depletory means were used, but with no avail, and no sign of any amendment was visible, until ammonia, combined with assafœtida, were rubbed on the spine and on the epigastrium. I believe the case was regarded as quite hopeless by the medical gentleman then in attendance.

[In a case of croup, the vesication was produced by hot water. A piece of flannel was rolled to the thickness of the finger, dipped into boiling water, and immediately applied round the throat. The symptoms were subdued in a few minutes.]

Provincial Medical and Surgical Journal, Jan. 1, 1842, *p.* 268.

35.—PHARMACEUTICAL BREAD.

By Mr. Henry Deane.

Flour 3 lbs. Imperial; Cold Water, 1 1-2 pint Imperial; Sesquicarbonate of Soda, 1-2 oz. (Troy Weight); Hydrochloric Acid, 5 fluid drachms; a small quantity of Salt, if required.

Mix the soda perfectly with the flour, and the acid with the water, then the whole intimately and speedily together, using a flat piece of wood or spaddle for that purpose, in preference to the hand. It may be made into two loaves, and put into a quick oven immediately. It will require about an hour and a half to bake.

Precautions.—Let the soda be well mixed with the flour, for wherever a small lump of it is deposited unmixed, it is not perfectly acted upon by the acid, and causes a yellow spot in the loaf, which however is more unsightly than detrimental.

The acid is the muriatic of commerce, and should have a specific gravity of 1·16. It should be mixed with the whole of the water to be employed.

The water should be as cold as possible. Three pounds of flour require about a pint and a half to make it into dough of proper consistence: but as the quality of flour varies according to season, and other circumstances, a little more or less water may be used as occasion may require.

The dough should not be made stiff. The thinner it is, so that it may be conveniently handled, the lighter will be the bread. Much kneading is detrimental.

The largest quantity of flour that can be conveniently mixed at one time is about 12 lbs.; where more is required, it is better accomplished by mixing it separately.

It requires a hotter oven and more time to bake than fermented bread does.

The advantages to be derived from this process are important. In all climates and under all circumstances it may be adopted; and by it is entirely obviated all difficulty of procuring yeast or ferment, which is frequently of an inferior quality, vitiating the bread, and rendering it more or less unwholesome.

The bread being free of all yeasty particles is more digestible, and not so liable to create flatulence, or turn acid on weak stomachs, as fermented bread is apt to do even when of the finest quality.

It is a great saving of time, trouble, and litter, and may be employed at

all seasons of the year, without reference to temperature or atmospheric variations.

Economically, yeast may possibly have the advantage when plentiful and good; but when scarce and bad, a common state of things during the summer months, particularly in remote districts, the saving of time, trouble, and risk is invaluable. Where much bread is made for a family, as at some farm-houses, by purchasing the materials in large quantities, a considerable saving may be effected.

Pharmaceutical Transactions, No. 9, p. 492.

[This will be perceived to be a modification of a process invented by Dr. Whiting, and improved by Mr. Dodson, of Blackman Street, Southwark, (see Retrospect, No. 2, article 76.)]

36.—SATURATION OF ACIDS AND ALKALIES.

By Mr. Henry Scholefield, Oxford Street.

Thinking it probable that a few remarks upon the subject of Saturation, as connected with the preparation of prescriptions, may be of advantage to the dispenser, I have arranged the following, accompanied by a table, for the purpose of showing, at a glance, the quantities requisite for the purpose; which, although containing nothing new, may, nevertheless, prove to be of practical utility, in a collected form, as an article of reference.

The advantages of definite proportionals over the ordinary methods resorted to for saturation, are very considerable. From the one of adding either acid or alkali until effervesence has ceased, great variations are likely to ensue; whilst from that of testing, by means of turmeric and litmus papers, the product is almost certain to contain alkali in excess, in consequence of the free carbonic acid being sufficient of itself to affect the test paper.

In the application of this table it should be observed, that the articles adduced are those of the London Pharmacopœia, 1836, in their *pure state*; consequently if either be deteriorated in any way, the rule is unavailable: for example, the hydrated sesqui-carbonate of ammonia is composed of the carbonate and bicarbonate of the base, the former of which evaporates upon exposure to the air, leaving the latter a neutral salt, requiring, during the process, a decreasing quantity of acid for saturation. Pharmaceutists should, therefore, select a chrystalline portion for operation in preference to using the powder.

I have calculated lemon juice as containing one ounce of citric acid in fourteen fluid ounces, which is the average ratio; but as it varies according to the time of year, and from other causes, latitude of one drachm is given.

Supposing the articles kept by chemists and druggists to be in a perfect state of purity, this table will be found intrinsically correct, and available for all ordinary purposes in compounding prescriptions wherein "quantum sufficit ad saturationem" is ordered.

ONE SCRUPLE.	LEMON JUICE.	CITRIC ACID.	TARTARIC ACID.
	Drachms.	Grains.	Grains.
Potassæ Bicarbonas	3 to 4	13·68	14·85
" Carbonas	3½ — 4½	16·76	17 95
Ammoniae Sesquicarbonas	5 — 6	23·74	25·44
Sodae Carbonas	2 — 3	9·72	10·41
" Sesquicarbonas	3½ — 4½	16·86	18 07

The alkaline standard of a scruple is chosen for the convenience of calculation; with the acids it is not presumed that manipulators will weigh to the minute decimal parts of a grain, yet I conceive accuracy essential in arranging a table, from which dispensers may act according to their judgment.

Pharmaceutical Transactions, No. 9 p. 488.

37.—ON INFUSIONS, &c.

Mr. Jacob Bell amongst other useful observations, notices the fact, that infusion of orange peel, if the process of infusion have been continued during a quarter of an hour, is a clear and elegant preparation: but if the infusion be allowed to stand on the dregs a few hours, it becomes muddy, acquires a nauseous taste, and is more liable to spoil by keeping. The infusion of rhubarb and of calumbo, he says, are remarkable instances of the same kind. He adds that rhubarb and senna, treated with cold water, have been found by experiment to yield larger proportions of extract, and more efficacious products, than when hot water has been employed.

Mr. Alsop (*American Journal of Pharmacy*), shows that the ordinary process of infusion defeats its own end. When the materials are in the bottom of an infusion jug, the water being above them, a saturated solution is formed below, which acts as a septum between the lower and upper strata; and hence the process of extraction is but imperfectly effected. He proposes, therefore, that the infusion jug should have a diaphragm in its upper part, on which the materials should lie. If boiling water be poured on, so that it should rise above the materials, it will happen that as soon as the water in contact with the materials becomes saturated, and therefore, specifically heavier, it will descend, and be replaced by water less loaded, and hence more capable of extracting new matter. Mr. Alsop, alluding to the ephemeral nature of infusions, informs us that they may be preserved a long time by the following process. When the maceration has continued during the time prescribed, the infusion should be strained *while hot*, and immediately transferred to bottles provided with accurately ground stopples. The bottles are to be made perfectly full; and the stopples must displace their own bulk of the liquid. As the solution cools a partial vacuum is formed by its contraction, which is the more complete the higher the temperature was at which the liquid had been bottled. In this way, infusions may be preserved for months.

This is Appett's principle of preserving meats, soups, &c. Mr. Alsop's proposal appears to be a most useful adaptation, and would, if practised, save apothecaries a great deal of annoyance, and the patient a great deal of delay.

Steel Pills of Dr. Blaud.—These may be prepared in the following manner:—Take of Berthemot's sulphate of iron half an ounce (Troy), dry it at about 100°, and reduce it to a fine powder; with this mix intimately an equal quantity of hastily-pulverised sub-carbonate of potash. To the mixture add three drachms of honey, and form a mass. This, if too soft, will soon harden. The decomposition does not take place until the honey has been added; and then the absorption of oxygen, although it commences, is arrested at the same point as the *sucre ferrugineux* of MM. Klauer and Becker, for in all of these the principle is the same.

In the whole mass, as prepared above, there are 63 grains of oxide of iron. Hence, if the whole mass be divided into 165 pills, then each drachm into 15 pills, each pill will contain scarcely more than one-third of a grain of oxide of iron, almost entirely in the state of protoxide. These pills

will keep a long time without absorbing oxygen. (See *Journal de Pharmacie, March* 1841.)

Dublin Medical Press, Oct. 27, 1841, *p.* 260.

38.—ON COUNTER-IRRITANTS.

By Dr. Turnbull.

[The following are the formulæ adopted by this gentleman:]

TINCTURA CAPSICI CONCENTRATI.

℞ Capsici Baccarum, ℥ iv.; Spiritus Vini Rect., ℥ xij.

Macera per dies septem et cola. (It may also be made with advantage by displacement.)

This concentrated tincture is used as an external application, and is found to be a powerful rubefacient and counter-irritant for which purpose the ordinary tincture of capsicum is not sufficiently powerful.

Veratria, dissolved in this tincture, acquires increased activity; the capsicum apparently facilitating its absorption into the skin. Four grains of veratria, dissolved in an ounce of the concentrated tincture of capsicum, will be found as powerful in its effect as twelve or fifteen grains dissolved in alcohol

PULVIS ALUMINIS ET CAPSICI.

℞ Aluminis Sulphatis, partes tres; Tinct. Capsici Contentrati, partem unum.

Misce et sicca.

A very small quantity of this powder, applied to the tonsils, is found more efficacious, in some cases, than an alum and capsicum gargle.

UNGUENTUM IPECACUANHÆ.

℞ Pulvis Ipecacuanhæ, 3 ij., Olei Olivæ, 3 ij.; Adipis, ℥ ss. M. ft. unguentum.

UNGUENTUM EMETINÆ.

℞ Emetinæ, g. xv.; Sp. Vini Rect., q. s.; Adipis, ℥ ss. M. ft. unguentum.

Dr Turnbull states that he has found this ointment particularly efficacious as a rubefacient in pulmonary and rheumatic affections, producing little or no pain or inconvenience to the patient.

Pharmaceutical Transactions, No. 11, *p.* 601.

39.—ANTIDOTE TO THE SALTS OF COPPER.

By M. Benoist.

Liquid Albumen is generally administered as an antidote in cases of poisoning with the salts of copper, but it has this disadvantage, that as we are unacquainted with the exact quantity necessary to neutralize the copper, if we employ too great a quantity, the poison is dissolved in the excess of albumen. To remedy this inconvenience M. Benoist proposes to substitute for albumen, a solution of carbonate of soda, which forms with the salts of copper an insoluble carbonate, having no deleterious action on the economy.

American Journal of Medical Science, Oct. 1841, *p.* 505.

40.—ON BLISTERING PLASTER.

B. M. Soubeiran.

According to Dr. Muller, the uncertainty which sometimes attends the effects of blistering plaster, as usually prepared, may be ascribed to the circumstance of the vesicating principle remaining locked up in the tissues of the fly.

In order to obtain a plaster more uniform in its operation, Dr. Muller recommends that the cantharides be left to digest in the plaster, kept fluid at a moderate heat, for five or six hours.

I consider this suggestion of Dr. Mullers a very good one to follow; it nearly corresponds with what M. Guibourt has said on the same subjects; but the prolonged digestion of the cantharides ensures the solution of the active principle more effectually than would be the case if they were merely incorporated with the plaster while still hot, according to M. Guibourt's recommendation.—*Journal de Pharmacie.*

Pharmaceutical Transactions, No. 9, p. 502.

41.—ARTIFICIAL HARROGATE WATER.

Where the genuine Harrogate water cannot well be procured, the following will be found a good substitute:—

ARTIFICIAL HARROGATE WATER.

℞ Sulphatis Potassæ cum Sulphure, 3 j.; Potassæ Bitartratis, 3 ss.; Magnes. Sulphat., 3 vj.; Aquæ Destillat., lbij.

Solve.—Capiat dimidium p. r. n.

The above is sufficient for a quart, and ought to be taken early in the morning before breakfast, and be followed by a walk, to produce the desired effect.

The artificial Harrogate salts are very much employed, and not unfrequently by those who drink the genuine water, for the purpos of increasing its aperient power. The salts may be made as follows:—

HARROGATE SALTS.

℞ Sulph. Potass cum Sulphure, 3 vj.; Potass. Bitartratis, ℥ j.
Pulv. Magn. Sulph., ℥ vj.

M. benn.

The usual dose of the above, is one tea-spoonful in a small tumbler full of tepid water, early in the morning.

Pharmaceutical Transactions, No. 7, p. 323.

42.—GELEE POUR LE GOITRE.

By Mr. Thomas Beesley. Banbury.

[An elegant preparation of iodine with the above name is sold at Lausanne, in Switzerland, which is found of great use in the same cases for which we use it in this country. It certainly is an elegant way of compounding the iodide of potassium, and is not liable to the reduction of the iodide, and consequent discolouring which sooner or later renders the ointment of iodide of potassium objectionable. The proportions, of course, can be varied, and a little essence of rose, or oil of lavender added if required]

Dissolve by a gentle heat, 3 vj. or 3 vij. of white soap in ℥ ij. of proof spirit; add to it while yet warm, 3 iv. of iodide of potassium, dissolved in the same quantity of spirit, and let it cool *slowly* in wide-mouthed vials well corked.

Pharmaceutical Transactions, No. 8, p. 416.

COLLECTION AND PRESERVATION OF HYOSCYAMUS.

By Joseph Houlton, Esq., F.L.S.

I have known this plant of doubtful duration forty years, and have seen it growing in various parts of this country in its wild state. I cultivated it for several years in my garden, and from what I have seen I am quite satisfied that it is a biennial; and such is the opinion of the herb gatherers with whom I have conversed on the subject. If there is, as some assert, an annual variety, it is rare as an indigenous plant. I wish those who call it an annual, would give its habitat as such; I only know it as a biennial, which bears fine petiolated leaves in the latter summer months of the first year of its duration; the plants at this period, are called by the gatherers, seedlings; their leaves are very specious, and meet with a ready sale in the market: if carefully examined, they will be found to possess but little of the clamminess and fetid odour that belong to the true medicinal leaves; their foot-stalk is the positive characteristic of the first year's leaves, which are not fit for medicinal purposes. I have asked the gatherer why he carried about the seedling leaves; his answer has been, "A cos they like 'em better than t'others, cos there a'nt no stalk." These leaves die down to the root in the autumn, at which time the root has attained its mature state, and is in full possession of its poisonous properties. In the following spring the root sends up a curious tuft of small light green wooly leaves; a stem soon rises, plentifully furnished with leaves which have no footstalk, but closely embrace the stem; they feel clammy, and send forth a strong and unpleasant odour, very similar to that of the leaves of the black currant. These are the true medicinal leaves, and are in perfection when the plant comes into flower. I prefer them as soon as the first flowers open; the plant flowers in June; the period varying with the temperature of the season. Now to guard the practitioner in large towns, where he must depend upon the herb collectors for his supply, I would advise him to have the leaves brought to him on the flowery stem. On receiving the herb, if it should not be convenient to strip off the leaves at that time, the flowering heads should be cut off immediately, and the plants strewed separately in a dry, but not a dark place. These cautions are important, and are proved to be so both by physiology and experience. When the leaves are separated from the stem, they should be dried without artificial heat, as quickly as possible, in the open air, on some waterproof substance; when they are a little dried, the midrib should be removed, which may be done with more facility than when they are quite fresh; at the same time the large leaves may be divided transversely, and as the drying process goes on, it is as well to have the leaves carefully rolled between the hands into small loose masses; when quite dry, they should be kept secluded from the light and the atmosphere. From hyoscyamus thus prepared, a tincture may be produced, after the form of the Pharmacopœia, that will be veritable, and seldom disappoint the practitioner.

Pharmaceutical Transactions, No. 8, p. 427.

44.—ON THE EXTEMPORANEOUS PREPARATION OF MEDICATED WATERS.

By Mr. Jno. Fordred, Ashford.

It being the constant practice of many druggists, but more especially of those resident in the country, to prepare the principal of their medicated waters extemporaneously, a few remarks on them may, perhaps prove worthy of insertion in your columns.

The directions given in the Pharmacop. Londin., 1836, are to "carefully triturate a drachm of any distilled oil with a drachm of carbonate of magnesia, and afterwards with four pints of distilled water. Lastly, let the water be strained."

An improved method of preparing them was proposed some years since, by Mr. Palmer, now of Newgate-street, London, and was communicated to me by Mr. Davis, of Folkestone, the form for which is as follows:

℞ Ol. Essential., ʒij.; Cret. Præcip., ℥j.; Sp. Vini Rectif., ℥ij.; Aq. Destillat. Cong. j.

Rub the oil with the chalk, then gradually add the spirit, and when completely dissolved, pour in the water by degrees; let it stand three minutes, and filter through a *close* paper.

The improvement consists in the use of the creta præcipitata, and the addition of spirit. The advantages claimed in using the cret. præcip. are three.

First. Its ready deposition after the water is prepared, which is so rapid that it may be poured off clear almost immediately, and consequently will not choke the filter as the magnesia is apt to do.

Secondly. In causing some of the waters to be prepared, perfectly *bright* and *colourless*, which appears to be an impossibility when the magnes. carb. is made use of, and this is a point generally aimed at by those who prepare their medicated waters extemporaneously. This remark more particularly applies to the aqua pimentæ, cinamomi, and menthæ viridis.

Thirdly. On the score of the greater insolubility of the carbonate of lime over the carbonate of magnesia. Indeed, *that* may be said to be totally insoluble in distilled water, while we know *this* may be taken up in sufficient quantity to cause the decomposition of certain chemicals which are occasionally required to be dissolved in it.

I am sorry to say there are some druggists who substitute "aq. fontan." for "aq. destill.," a practice which cannot be too highly deprecated; if distilled water *cannot be procured*, filtered rain-water is decidedly the best substitute, and none other ought to be used. I have also seen it ordered in some private forms to add the water *boiling hot*. This, if any thing, is worse than the foregoing, as the greater part of the virtue of the oil must be vaporised by the heat of the water employed.

Pharmaceutical Transactions, No. 8, p. 413.

45.—PHLORIDRINE, A NEW MEDICINE.

[Phloridrine is a new medicine which is now very highly spoken of by French practitioners as a useful adjunct to our cinchona preparations. It has been used for some years in Germany, Poland, and France. It is extracted from the bark of the roots of the apple-tree and the wild cherry-tree, and is thus prepared: the bark of recent roots is boiled with water sufficient to cover them, for half an hour. This is poured

off, and the same quantity is again used; these two fluids are mixed together, and at the end of six hours deposit the phloridrine in the form of a deep-red velvety-looking matter.

M. Lebaudy, the editor of the *Journal des Connaissances Medico-Chirurgicales*, says, "its efficacy is so decided that we cannot hesitate to class it with the most powerful febrifuges; and it has this advantage over quinine, that it never induces gastralgia."]

46.—YELLOW AMBER IN AN ANOMALOUS NERVOUS AFFECTION.

By M. GERARD.

[A female aged 37, unmarried, since the age of 20 has been attacked with a nervous disorder presenting peculiar symptoms. Many physicians had been consulted without success. M. Gerard had attended her nine years with no amelioration to her symptoms, which appear to have been those of an intermittent hysteric chorea. M. G. used antispasmodics, leeches, mercury, and carbonate of iron; the two last were the only medicines affording her the least relief.]

"In 1838, I took an artificial magnet of the force of 250 grammes, and touched the patient without her being aware, the result was a terrible attack of her spasms.

In 1840, she was seized with a painful contraction of the lower jaw: I placed a mustard poultice on the leg, this drew away the irritation; the jaw became loosened, but the patient could neither move the leg, nor place it on the ground, without becoming convulsed.

The idea presented itself to me of trying an ideo-electric body; I requested an amber necklace, it was placed above the calf of the leg. The effect was that any part of the body from the head to the necklace might be touched with impunity, whilst below from the necklace to the toe, the least touch produced the convulsive action. The collar appeared to act as a complete barrier. The collar was taken to the thigh, then to the kidney, and lastly to the neck. When the collar was brought to the neck, I observed a marvellous change—one might touch the patient in any part without inducing the convulsive action: she was, in fact, cured. On taking off the collar she relapsed, but when it was put on again she was quite better. The quantity of amber required to prevent the least remains of her affection was 70 grammes. If the collar approached the lower jaw it lost its effect; it acted best when placed at the base of the neck, immediately above the clavicle."

[We might almost feel inclined to doubt the reality of the above case from its extreme singularity, but M. Trousseau, one of the editors of the *Journal des Connaissances Medico-Chirurgicales*, narrates a case presenting some similarity to this.—The patient, a married female, was thrown into convulsions on the slightest touch, or on feeling any considerable odour. The face and hands were alone free from this peculiar morbid sensibility. There was one point of peculiar sensibility in the neck.]

SURGERY.

47.—ON LITHOTOMY AND LITHOTRITY.

By Edwin Lee, Esq., M.R.C.S., &c. &c.

[Mr. Lee has published an excellent paper on this subject in the Edinburgh Medical and Surgical Journal, for which the Jacksonian Prize of 1838 was awarded; and some practical remarks from this paper we will lay before our readers. On the comparative value of the bilateral and lateral operations for stone, he says:]

The lateral operation, which is the one almost invariably performed in this country, is superseded in France in some cases by the bilateral operation, which has not, I believe, been performed in England, and of which, as it is less generally known, it may not be out of place to say a few words. Chaussier first conceived the idea of avoiding the consequences which result from an extensive incison or laceration of the cellular texture around the neck of the bladder, frequently attendant upon the extraction of calculi by the lateral operations, by incising both sides of the neck of the bladder, so as to admit the extraction of stones, even of larger size, without the incision extending beyond the limits of the prostrate gland, or, at all events, without extensive lesion of the surrounding cellular texture. Beclard also acted upon this idea, and performed the bilateral operation several times; but it is to Dupuytren that its introduction into practice was principally owing. This celebrated surgeon preferred it almost exclusively during the latter years of his life; and in consequence of the successful results which he was stated to have obtained, it was pretty generally adopted by many French surgeons. This operation is in fact a modification of Celsus' method of cutting upon the gripe, but, instead of the operator introducing his fingers into the rectum to fix the stone, a staff very much curved and deeply grooved is passed into the bladder; a semicircular incision is then made through the perineum, commencing midway between the tuberosity of the ischium and the anus at the right side, circumscribing this aperture, and passing an inch anterior to it, to terminate at the corresponding point on the left side; the membranous part of the urethra is then divided longitudinally, and the double-bladed *bistouriecache* is introduced along the groove of the staff into the bladder, its concave surface being directed towards the pubes; when within the bladder, the bistoury is turned round so as to make its concavity front the rectum: the blades then being pressed out (to the extent previously regulated by a scale at the handle varying from six to twenty lines.) and the instrument being withdrawn, an incision is made in the neck of the bladder and prostate, of a form corresponding to that of the integuments.

The chief advantages of this operation are, that it is better adapted to the easy extraction of large calculi, especially in cases of deep perineum, than is the lateral operation; a way being made for the passage of the stone at the widest part of the inferior aperture of the pelvis; and, as the incision at the neck of the bladder would not, in most cases, extend beyond

the circumference of the prostate, the risk of urinary infiltration is much diminished. It exposes less than the lateral operation to the danger of wounding important arterial branches, though in the bilateral as in the lateral operation, considerable bleeding may ensue from the division of the veins about the neck of the bladder, especially in old persons; and this is, perhaps, more likely to occur by the former than the latter method, as they would be divided to a greater extent. On the other hand, there is perhaps more likelihood in this than in the lateral operation, of the rectum being wounded, as this part, particularly in old people, is often considerably dilated. This accident may, however, generally be prevented by the previous exhibition of an enema, and by the operator's depressing the bowel with the forefinger of his left hand, while making the incision; but, even should it be cut, the wound would probably heal in most instances without trouble.

Some English surgeons, among whom is Mr. Liston, recommend, when the stone is of large size, that the incisions through the integument and cellular texture should be made the same as in the lateral operation; and, if the incision of the neck of the bladder on the same side be found insufficient to allow the extraction of the stone, then to incise the prostate on the opposite side; thus combining the bilateral with the lateral operation. Where, however, the former appears to be indicated, I should conceive it would be better to perform it in preference to the above method, in which the outward wound being on one side, the traction in the removal of the stone must necessarily be made in that direction, and when a large stone is in the grasp of the forceps, would be more likely to occasion injury and laceration to the parts, than when the direction of the outward incision corresponded with that at the neck of the bladder. Besides, the majority of operators having once seized the stone, would not stop to make the second incision of the prostate, but would continue their attempts to extract it, and thus risk injuring the parts by the employment of an undue degree of force. In several trials which I have made on the dead body, and also the demonstrations of this operation which I gave in England, the blades of the bistoury were expanded to the extent of from fourteen to eighteen lines, which admitted of the extraction of large stones from the bladder, and subsequent examination of the parts showed that the incisions had not extended beyond the limits of the prostate.

[It is, however, well known, that the success which has generally been attributed to the bilateral operation is not to be depended upon, owing to the erroneous reports which have been published respecting it, and more especially in France. The account of it in the *Dictionnaire de Medicine et Chirurgie* differs materially from those given by M. Civiale.]

The lateral operation may then be considered as the one most applicable to the great majority of cases where lithotomy is required, and must be regarded in a very different light according to the circumstances under which it is performed; both with respect to facility of execution, and as to its ultimate results. In favourable cases, and particularly in young subjects, the operation is generally terminated in a few minutes, not unfrequently in one or two minutes, and the patient is at once relieved of a disease, which, if left to itself, would occasion months or years of suffering, and cease only with his existence. After the operation, the wound in the bladder being at its lower part, the urine passes away readily; the contractile power of the organ is not materially impaired; there is comparatively little risk of the urinary infiltration or the peritoneal inflammation, to which the hypogastric operation so frequently exposes; and in by far the greatest number of instances, the patient advances towards recovery with-

out impediment. Notwithstanding these circumstances, however, the operation must always be regarded as one of the most painful and dangerous in surgery.

When we remember that only a few years ago the operation of *Lithotrity* was but little practised in this country—so little so, that Mr. Crosse, in his standard work on urinary calculi, says, speaking of the different instruments, "they are scarcely employed by any, save those who dedicate their time and attention almost exclusivety to the undertaking," we cannot but be astonished at the rapid advances which have been made in this branch of surgery within the last five years. It is curious to observe the different improvements which have been made in the various instruments for this operation. It would be of little use here to enumerate them, or to go into detail respecting their merits. This has already been ably done by different writers. They may be ranked under four heads: "1st. Those with which the stone is first perforated with a view to diminish its force of cohesion, and then crushed. 2nd. Instruments for breaking calculi by means of percussion. 3rd. Those for effecting the same purpose by pressure. 4th. Instruments, by means of which, percussion may be combined with pressure."

The instruments with which pressure may be combined with percussion are most usually employed at the present day, and are so perfectly constructed as to render their use much more easy and safe, in all the cases to which lithotrity is adapted. In form they resemble Heurteloup's percussor, of which they may be considered a modification; and though their diameter need not exceed that of a large-sized bougie, they are made sufficiently strong to break the hardest urinary calculi. The concave branch slides freely within the convex one; and thus admits of the employment of percussion, while by the addition of a screw at the handle, (acting by a fly in Weiss's, and by turning a button in Charriere's instruments) pressure may be applied. The teeth are small in these instruments, and are close together; the extremities of the branches are therefore as strong at one point as at another; the force employed telling in great measure on the curve and straight part of the instrument. An important improvement has been effected within the last three or four years by Mr. Weiss, at the suggestion of Mr. Oldham, by which a serious inconvenience formerly attending the use of these instruments is obviated. This consists of an opening being made in the curved portion of the convex branch, which, without weakening the instrument, allows of the detritus being pressed through, as the stone is crushed, instead of becoming collected between and clogging the branches,—thus impeding their closure, and the consequent withdrawal of the instrument, which not unfrequently occurred before this improvement was made. In the curved instruments, however, used by M. Civiale, there is no aperture for the passage of the detritus, which is prevented from collecting between the branches, by a few gentle taps being struck with a hammer on the extremity of the concave branch after the stone has been crushed by pressure. After every two or three blows, M. Civiale separates the branches a little with the thumb of his left hand while holding the instrument, in order to allow the detritus to fall out; and in several operations which I have seen him perform, there has not been any difficulty in withdrawing it, though this would be very likely to happen in less practised hands. The extremity of the branches of this instrument is of a much more flattened form than those in general use, which M. Civiale considers more advantageous, as a larger surface of the stone is embraced, and the fragments resulting from its fracture are less angular.

After a stone has been broken by one of the preceding methods, a greater difficulty is generally experienced in dealing with the fragments, each portion having to be seized, and broken sufficiently small to enable it to pass away through the urethra. In order to obviate this inconvenience, Mr. Key very ingeniously caused to be added to the ordinary kind of lithotrite, a small net, which, when the instrument is open, is expanded by means of lateral wires. The net thus catches the larger fragments after the stone is crushed, instead of allowing them to fall into the bladder, and, being contracted by drawing the wires, replaces them within the grasp of the instrument, to be broken into small portions at one sitting. Though this apparatus has been successfully used by Mr. Key, it is of too complicated a nature, and too likely to become deranged, and thus cause irremediable injury, ever to come into more general use. Even were it not exposed to these objections, it has, moreover, the great disadvantange of not allowing the surgeon to discontinue the operation, before the whole of the fragments are broken into pieces sufficiently small to pass through the meshes of the net, whatever be the state of the patient or the irritability of the parts; and it is well known by those who have paid most attention to the subject, that many of the accidents and dangers attendant upon lithotrity are attributable to the sitting being too much prolonged, when the surgeon has been anxious to terminate the operation in one or two sittings.

There is in general no difficulty in seizing a stone in the bladder with the two-branched lithotrite, after a few trials have been made on the dead body. The pelvis having been raised by pillows placed beneath it, and the bladder moderately distended by the injection of tepid water, the lithotrite should be introduced and the stone felt for with its convex surface as in common sounding. By raising the handle, and consequently depressing the curved portion of the instrument to the floor of the bladder, the stone will generally be pushed a little on one side. The lithotrite being then held steadily with the left hand, its concave branch should be drawn back with the right, and as the resistance is withdrawn, the stone, tending to revert to the medial line, will probably fall within the expanded branches. When the curved portion is not sufficiently depressed, though the stone be plainly felt, the attempt to seize it may fail, in consequence of the instrument being opened above it, as I have seen happen in several instances. If the stone should not fall within the branches, and is felt to lie on one side, it may generally be seized by rotating the beak of the instrument towards it, and even when lying behind an enlarged prostate, a stone may frequently be taken up by this means. As the shortness of the curve in these instruments admits of their being turned completely round, with but little pain or inconvenience, on the concave surface being presented downwards, and the inner branch being drawn back so as to open the instrument, the prostate is slightly advanced with it, thus very much facilitating the taking up of calculi, which would otherwise escape detection. When the stone is felt to be between the branches, it should be held firmly by the thumb of the operator's left hand pressing on the expanded portion of the handle, if percussion is to be employed, or by turning the fly or button when pressure is preferred: the screw being then tightened till the stone is broken, or, if much force be requisite, and the assistance of percussion be deemed advisable, the screw may be removed by turning the knobs of the button in one of Charriere's instruments transversely, and a few sharp blows struck with a hammer on the extremity of the instrument. When the stone is broken or is felt to have yielded, the screw may be again applied, and the branches of the instrument brought into contact with each other. In most cases, however, percussion may be dispensed with altogether, and in many, a very slight degree of pressure [illegible]

of the screw suffices to reduce the stone to fragments. This method is considered by most unprejudiced persons conversant with the subject, as infinitely preferable to percussion, as it is not so formidable an operation; is less abrupt in its action; does not require the assistance of a second person; is attended with less risk of injury to the parts, and breaks many calculi by gradually crumbling them down to a coarse powder or to small fragments, instead of at once dividing them into two or three larger portions, as mostly happens by percussion, which should be especially avoided when the bladder is much contracted, or where there is great irritability of the parts; but where the stone is hard and brittle, not yielding readily to pressure, percussion may be advantageously called in to its aid, and will in some cases very much facilitate the operation. When the stone is once broken, its fragments may generally be reduced to smaller portions by pressure alone; for which purpose it is frequently not even necessary to employ the screw, pushing the ends of the branches against each other with the hand being sufficient. For this part of the operation, as also for crushing small stones, the screw scoop and catheter forceps constructed by Weiss, may often supercede the employment of the lithotrite. These instruments are also well calculated to remove small fragments or detritus lodged behind the prostate. Injections of the bladder, either through the last named instrument, or through a large silver catheter, constructed for the purpose, the eyes of which are of considerable diameter, will very much facilitate the expulsion of detritus.

Edinburgh Medical and Surgical Journal, Jan. 1842, *p* 31–46.

[Both these operations have had their particular advocates. Mr. Lee, we think, very ably discusses the merits of each, and the circumstances under which the one or the other ought to be preferred. Where the operator cannot decide on the preference of one to the other in any individual case, it will clearly be his duty to give the preference to lithotrity, as the other can be performed afterwards, in case this milder operation failing to cure.]

Lithotrity may be considered as more especially suited to adults whose general health is good, and whose urinary organs are free from any other disease than the presence of stone; in whom the bladder is moderately capacious, not preternaturally irritable, and contains a stone of a small size, (as not exceeding the size of a filbert), and not excessively hard. A patient in whom these conditions are met with may be regarded as being under the most favorable circumstances for the operation, which in all probability would require but few sittings for its completion, without the occurrence of any of the more serious accidents which sometimes attend it. Nor are the instances in which all these propitious circumstances are united at all unfrequent; a large portion of stone patients who apply to the surgeon for relief have, in fact, no disease but the stone, the presence of which is frequently not even manifested by the symptoms, but only becomes evident on sounding. It is true that a person under similar conditions is also in a very favourable state to undergo lithotomy, and would most probably recover; yet it must be borne in mind that, even in the most favourable cases, the mortality from lithotomy is great; that it is an operation of a most painful nature, and one of which patients entertain so great an apprehension, as not unfrequently to have a prejudicial effect on the result; that unexpected difficulties may arise during the operation, and accidents may supervene, compromising the patient's life; and that, even if every thing were to go on well, the patient must still be almost entirely confined to his bed, till the complete healing of the wound. Few surgeons, therefore, conversant with both operations, would hesitate in a similar case to recommend lithotrity; and even were the surgeon disposed to pre-

fer lithotomy, many patients would decline adopting his recommendation, and would very likely apply to others whom they might think better able to cure them, without subjecting them to so formidable an operation.

Adults and elderly people, in other respects in the same condition as those above specified, but in whom the stone is of larger size, as of a walnut, or from ten to fifteen lines in diameter, may also be considered in a favourable state to undergo lithotrity, though, of course, less so than when the stone is of smaller size. If instead of one moderate sized stone, the bladder contains two or three small ones, the patient is not in a more unfavourable state, as he would be no worse than if he originally had a larger stone, which, after a sitting or two of lithotrity, had been broken into as many portions. Even when the bladder contains several stones, lithotrity may still be applied, if there be no other counter-indicating circumstances, and the stones be of small size, though, if there was reason to believe they were numerous. lithotomy would perhaps be the preferable operation, on account of the length of treatment required by lithotrity, and the existence of so many cases of irritation, superadded to that of the frequent introduction and manœuvring of instruments. Here, however, the degree of irritability of the parts and other circumstances must be taken into the account to guide the surgeon in his choice, as, though he may be aware that the bladder contains more than one stone, he cannot always be as certain that it contains several. In these cases, also, the tendency to the re-formation of calculi must not be lost sight of. This, indeed, would be one reason for preferring lithotrity, if other circumstances were not unfavourable to its employment, as a patient in whom this predisposition is strongly manifested would, even after lithotomy, very likely require another operation ere long, and this could not, like lithotrity, be repeated several times in the same person.

Lithotrity has been objected to in these as also in the simpler cases where the bladder only contains one stone, on the grounds that one or more of the calculi or fragments are liable to be left behind, after the operation is terminated. This, it is true, has occurred in several instances, and in some patients who were supposed to have been cured, but who afterwards died of the disease, an examination of the parts has exhibited the formation of fresh calculous depositions around the fragments of calculi which had been broken by lithotrity. Where also the sittings of lithotrity are obliged to be suspended for any length of time, the fragments very often become covered with a coating of the phosphates. One of the first patients lithotritised at the Hotel-Dieu, a short time after he had been dismissed as cured, returned as ill as before, though when he left the hospital he had none of the symptoms of stone, nor could any remains of the foreign body be detected on sounding. This accident, though more likely to happen, is not peculiar to lithotrity, but may also occur after lithotomy, where the bladder contains several calculi, or where a stone is broken in attempting to extract it. When, however, after proper explorations of the bladder, no more calculi or fragments can be felt, it is fair to conclude that none exist. Even should any escape detection by being lodged in a fold of the bladder or otherwise, lithotrity should not bear the blame, as it can only attack what is tangible, and in many of the cases, where a calculi is again felt in the bladder some time after the performance of lithotomy or lithotrity, and the patient was considered to be cured, it is just as likely, or more so, to be the result of a subsequent descent from the kidneys, particularly when there have been several calculi, which indicates the great predisposition to their formation.

When the stone is of considerable hardness, but of small size, lithotrity is applicable with great prospect of success, and, if there be no counter-indicating circumstances, should generally be preferred to lithotomy. The

hardness of the stone (if it be small) need not, as formerly, prevent the performance of the operation, which will, in these cases, often be facilitated by the assistance of percussion, though the present improved instruments are able to break, by means of the screw, the hardest urinary calculi, without the danger of their giving way. When, however, there is reason to believe that the stone is of larger size, as above twelve or fifteen lines in diameter, and that it is at the same time of great density, lithotrity would be attended with much more risk, and lithotomy would, in most cases, be the preferable method, especially if the symptoms of the disease be severe, and there exist much irratibility of the bladder, on the passage of instruments. The hardness of a stone, though very unfavourable for lithotrity, is not so for lithotomy, but rather the reverse, as when once the bladder is opened, it would be more easily extracted than a softer one, which might break by the pressure of the forceps, and would necessitate their more frequent introduction, with the risk of a portion being left in the bladder.

In proportion to the increased size of the stone beyond a certain point, as from twelve to fifteen lines in diameter, (due regard being always paid in estimating this circumstance to the relative capacity and irritability of the bladder) the case is more unfavourable for lithotrity, which is altogether unsuitable to very large calculi. In some cases, however, of large calculi (as of the size of a hen's egg) chiefly composed of the phosphates, and consequently more friable, lithotrity might still be preferred to lithotomy, which, in these cases, is not unfrequently counter-indicated; or its performances is attended with the greatest risk, on account of the diseased state of the urinary or other organs; consequently lithotrity, though performed under very disadvantageous circumstances, would afford the best chance of relieving the patient of his disease, and should be had recourse to, if the condition of the patient admitted of its application, with a likelihood of success.

The smaller, therefore, and the more friable the stone—other circumstances being the same—the more favourable is the condition of the patient for lithotrity. Some calculi are so soft as to break on the slightest touch, or fall to pieces spontaneously, forming a sort of mortar in the bladder. For these the lithotrite need not be used, as they would be better removed by the scoop catheter and injections of the bladder.

[The preceding observations chiefly respect the nature of the stone to be extracted, but even still more important circumstances are to be well considered before having recourse to either lithotomy or lithotrity. The condition of the parts in question are to be carefully examined. In the first place a *narrow urethra* must always be an obstacle to lithotrity, although the recent improvements in the instruments used may, in some measure obviate this difficulty. A contracted urethra will not only prevent the proper instruments being easily managed, but also will prevent the ready escape of the fragments afterwards. The same may be said when *stricture* is the cause of the contraction; although this may generally be remedied before the operation. "When co-existing with stricture, other states unfavourable for lithotrity are met with, as a largish or hard stone, a contracted or diseased state of the bladder, great irratibility on the passage of instruments, or enlargement of the prostate, lithotomy would in most cases be preferable, and, if successful, would at once relieve the patient of his stone, and at the same time of his stricture." When the urethra is more closely bound up to the symphysis pubis than usual, the curve is much increased, and of course will prevent the free use of instruments which are inflexible and comparatively straight: for

even the curved instrument which is now often used, does not remedy this difficulty, the curved part being exceedingly short, and entirely within the bladder during the operation. "Enlargement of the prostate, especially its middle lobe, is also a common cause of increased curvature of the urethra, and may exist to such an extent as to render lithotrity impracticable with safety." At the same time an enlarged prostate is equally a cause of danger in lithotomy, not only from the increased depth of parts between the skin and bladder to be cut through, and from the incision being made through a part morbidly altered, but also from the enlargement being so frequently complicated, especially in old people, with disease in other parts.

"*A contracted and thickened bladder*, is also a very unfavourable complication." In this case both lithotomy and lithotrity would be dangerous. When the symptoms are very urgent, and the bladder in a high state of irritability, lithotrity would greatly add to the evil, and ought not to be performed unless the advantages preponderate in other ways, such as the stone being small and soft, in which case the sittings ought to be short, and sufficient time ought to intervene between each operation. It frequently happens, however, that the irritability of the bladder diminishes instead of increasing, by a repetition of the operation, the bladder becoming more accustomed to the irritation. If to this state of irritability of the bladder there be added a state of subacute inflammation, lithotomy would be inadmissible, and if the patient *must* be relieved of the stone, lithotomy would be the preferable operation, and especially if the state of inflammation were kept up by the stone: but if the inflammation were decidedly of a *chronic* character, unaccompanied by much pain or irritability of the bladder, but attended with a copious secretion of ropy mucus, although an unfavourable complication, lithotrity would be preferable to lithotomy, as the stone in these cases is generally composed of the phosphates, and is soft and easily reduced to fragments

Sometimes atony, or even paralysis of the bladder exists in old people, and has been advanced as an objection to lithotrity, on account of the patient not being able, after the operation, to empty his bladder and get rid of the fragments; and, moreover, in these cases, the stone often arrives at a considerable magnitude before it causes great irritation. In such a case, if the stone is supposed to be of considerable size, and the prostate gland enlarged, lithotomy would be preferable: where, however, the atony of the bladder is not complete, lithotrity would often be preferable to lithotomy, always taking care to regulate the sittings by the circumstances of the case, and to bear in mind, that the bladder, by not being particularly irritable, is not that safe monitor to the operation which it is in other cases. Abscess, ulceration, or fungous growths of the bladder, as evidenced by the passage of blood, pus, &c., would of course render any operation inadmissible; unless we had good reason to suppose the blood or pus to come from one of the kidneys, the prostate, the perineum, or the surface of the urethra.

If organic disease exist in any other part of the body, it would render any serious operation unfavourable, especially that of lithotomy,—in these cases lithotrity might be of service.

The preceding observations apply chiefly to adult males or those above puberty, but a great many cases of stone occur in children below ten or twelve years. In these cases lithotrity is not advisible, on account of the narrowness of the urethra, and the length of time which would be occupied in the treatment; the fragments being required to be broken down more completely than in the adult whose urethra is wider

Other serious objections likewise exist, as the great susceptibility of the nervous system and irritability of the parts. In young children, therefore, lithotomy is generally preferred, for a variety of reasons. Mr. Lee ends his truly admirable paper by the following conclusions:]

1stly, That lithotomy is still, in the present state of the art, the operation most suited to the majority of cases of stone in the bladder; inasmuch as about one-half of stone patients consists of children to whom, with a few exceptions, it is more particularly adapted.

2dly, That as far as adults and elderly persons are concerned, lithotrity is most applicable to an equal, if not the greater number of cases.

3dly, Lithotrity is preferable in the great majority of female cases.

4thly, Other circumstances being favourable, lithotrity is more especially suited to calculi of small size, even when hard.

5thly, Lithotrity is less applicable than lithotomy to most cases where the bladder contains several calculi, especially if they be hard.

6thly, Lithotomy is the preferable, and often the only admissible operation in cases of large calculi; as also in those cases where the stone, though only of moderate size, is yet of considerable density and irregular on its surface, as in the oxalate of lime variety.

7thly, Where there exists much irritability of the urethra and bladder, which cannot be allayed by preparatory treatment, lithotomy would be the preferable operation; especially if the irritability appeared to be chiefly dependent upon the presence of the stone.

8thly, Lithotrity is applicable in some cases of deranged health, or disease of parts, which would counterindicate lithotomy, or would render its performance most likely to be attended with failure.

9thly, The degree of pain from the performance of lithotrity is not great in many cases, and is mostly diminished after the first sittings; but, on the other hand, in some instances, the operation is very painful, and the pain becomes increased in subsequent sittings, though perhaps, never so acute in lithotrity as in lithotomy, yet, as the pain in the latter operation lasts only for a few minutes, whereas, in the former it recurs, though less in degree, on each sitting, the patient frequently suffers by lithotrity a greater amount of pain.

10thly, The duration of the treatment is generally longer by lithotrity than by lithotomy, though sometimes it is shorter, and after the stone has been removed by the latter operation, the patient, though confined to his bed, may, during the greatest part of the period, be considered as convalescent; whereas, when lithotrity is performed, there is always risk, so long as any fragments remain in the bladder, of circumstances arising to prevent the completion of the operation, and the patient cannot be regarded as out of danger.

11thly, When lithotrity is applicable, the method by pressure is, in the great majority of cases, infinitely superior to that by percussion.

12thly, Lithotrity exposes more to the risk of a relapse than lithotomy, on account of the greater probability of a portion of stone having escaped detection, and remaining in the bladder after the operation.

Lastly, Sufficient data do not as yet exist whereon to form any acurate estimate of the average amount of failure, and mortality after lithotrity; the accounts hitherto furnished are of a very contradictory nature; some representing lithotrity as more successful in its results than many slight operations; others stating the number of failures to be very great. The circumstances of several unsuccessful cases which were not adverted to by the operators, having been subsequently brought to light, both in England, and on the continent, tends very much to discredit some of the statements of success which have been made; though, as far as the results are concerned, much must depend upon the operators being accustomed to the

use of the instruments, and knowing when to desist from persevering in the attempts; as also upon the selection of proper cases. It is, however, satisfactory to know, that since the instruments have become more simple and perfect in their construction, and the operation better understood by the generality of practitioners, the proportion of failures is much less than at an earlier period.

Ibid, April, 1842, *p.* 296–324.

48.—ON STRICTURE OF THE URETHRA.

By ARNOTT, WADE, COOPER, ARNTZENIUS, &c.

[An able article in Dr. Forbes's review, presents to us an epitome of the most modern views on the nature and treatment of stricture of the urethra, which we will endeavour to condense. The works of Arnott, Wade, Cooper, Arntzenius, and Franc, form the bases of the following observations.

Arnott describes the anatomy and relations of the urethra, but omits to dwell on the different relative positions which it assumes in infancy, and childhood, and the adult period.]

The bladder is a moveable viscus, and its relation to the arch of the pubes, (to which its membraneous portion only is fixed by the triangular ligament,) is constantly varying from the condition of the surrounding viscera, and from the influence of age. In the fœtus the bladder is placed almost entirely in the abdomen, and above the pubes, the pelvis not being, as yet, sufficiently developed to admit of its descent The rectum at this period, distended with meconium, and filling the whole of the imperfectly formed pelvis is another obstacle to the descent of the bladder to the position it subsequently occupies. As the bones of the pelvis acquire with age an increase of size, and become more and more developed, so the bladder is found lower and lower in the pelvis, till, in old age, it is even in a moderately distended state almost totally concealed behind the bones of the pubis. These anatomical facts show that Dr. Arnott's description of the opening of the urethra into the bladder can only relate to the earlier periods of life; in adult and old age, there is always a pouch of greater or less size formed behind the urethral opening into the bladder.

So well aware was the late Dr. Dupuytren of this situation of the bladder in infancy, and at the earlier periods of life, and also of the occupation of the pelvis by the rectum at this age, that he used to give the following directions as necessary to be observed in the performance of the lateral operation for lithotomy in young children: It results from this disposition, that if a knife is attempted to be plunged into the bladder, or drawn from it in a horizontal direction, the instrument will, in the first instance, pass between the bladder and the rectum, and penetrate the latter; and in the second, after having divided the neck of the bladder, and prostate, at this period very small. the instrument wounds the intestine longitudinally. From which it is easy to conclude that, in order to avoid the rectum in children on whom the operation for lithotomy is performed in the ordinary situation, it will be necessary to give to the knife a direction parallel to that of a line which, setting out from the umbilicus, shall terminate at the tuberosity of the ischium of the left side; and consequently, that the handle of the instrument must always be more depressed, and the point more raised than in the adult.

Hunter, it is well known, believed that strictures were never produced by gonorrhœa. Many modern surgeons, as Abernethy, Sir E. Home, Desault, and others, believed and taught that strictures were generally produced by the employment of injections during the inflammatory stage of gon-

orrhœa. We have no hesitation in confidently declaring that we are much more likely to expose our patient to the chance of stricture by totally omitting the use of injections in gonorrhœa than by their judicious employ. The quicker a gonorrhœa is cured the less likely are we to have stricture follow it. Gonorrhœa is a disease whose ill consequences are in a direct ratio with the period of its continuance. Cure it quickly if you can, but at the same time cure it completely. If a spot of chronic inflammation remain, however trivial it may appear in the commencement, it will slowly thicken, and destroy the elasticity of the urethra.

[Stricture is generally treated by simple dilatation, dilatation by fluid pressure, or by the bougie armed with the potassa fusa, or the nitrate of silver. Each of these varieties of treatment is useful in particular cases. The bougies used by Dr. Arntzenius for the purpose of exploring the urethra are made of "a strip of parchment rolled up so tightly that its layers adhere pretty firmly to one another, and which has at one end of it a knob or drop of glue made of boiled parchment. This knob contributes very much to the facility of introducing the instrument into a stricture; one can feel it slipping in; and then, by the heat of the urethra, it melts and the bougie unrolls of itself, while the melted glue is retained without injury to the urethra, and does not possess the slightest degree of any irritating quality. Such instruments may be manufactured of very small size and yet possess sufficient strength; and their unrolling is rather advantageous than injurious, in consequence of the slow dilatation to which the stricture is thus subjected."]

Their cheapness is mentioned by the author as an additional recommendation of these bougies, and this is not an unnecessary quality, since in general each can be used only once. Whether they deserve all the praise bestowed on them experience only can decide: to those who are disposed to try them we can give our evidence that the author does not seem one accustomed to speak rashly or to recommend unjustly, and that in general the bougies with knobbed extremities, so highly commended by Sir Charles Bell, are, of all, the most useful for the purpose of exploring the urethra, whatever M. Ricord may say to the contrary.

There are three modes in which the treatment of dilatation may be performed; the first, which is most commonly practised in this country, is that of gradual dilatation by bougies of various kinds, the size being slowly increased. The second is the forced dilatation of Mayer and Lallemand, to which we need not more particularly allude, its dangers being such that it is not likely to be practised by any prudent surgeon in this country.

[Dr. Arntzenius depends chiefly on simple dilatation with bougies, but the length of time occupied in this treatment must be an objection with many; and especially when the urethra is exceedingly sensible and irritable; and moreover, when the stricture is indicated, "the use of bougies will only procure a certain amount of benefit. In these, the most useful means are, bougies with their ends smeared with nitrate of silver or corrosive sublimate.]

In proposing the employment of dilatation by fluid pressure, Dr. Arnott passes in review the inconveniences and evils likely to arise from the use of the simple bougie. In noticing the rationale of the mode of cure effected by these instruments he contends, and we think with great reason, that the cure is seldom permanent. The first effect of the introduction of a bougie sufficiently large to pass through a permanent stricture is violent distention of the diseased part of the urethra, which, if the instrument can be left in the canal, gradually diminishes by dilatation or

absorption taking place: so that at last the instrument remains in the canal without any distending action. "After this its longer continuance in the passage can be of little avail, but may prove hurtful by the irritation excited. In curing strictures by the bougie, it often happens, from the increased tendency to contract, that, in the intervals between the introduction, whatever is gained by one is nearly lost before the succeeding, and this interruption to the process of distension, with the irritation produced by the so frequent passing of an instrument, is sufficient to account for the ordinary tediousness of the cure." To obviate, in some measure, the evils attendant on the use of bougies of a fixed size, surgeons have had recourse to the employment of instruments composed of substances which swell by heat and moisture, and thus become enlarged when suffered to remain for a certain time in the urethra; tents made of sponge, and bougies manufactured of catgut, leather, &c., &c., have been devised for this purpose. Dr. Arnott's fluid dilator was constructed with the same views, viz., the capability of being enlarged when passed into the strictured part of the urethra.

Dr. Arnott states that a dilator for the cure of strictures should be of little bulk, and of easy introduction, and should be made capable of assuming and retaining any shape and magnitude when in the urethra; it should also be capable of exerting a distending force to any degree, and always under control. Such are the properties and advantages assumed by Dr. Arnott for his fluid dilator. It consists of "a tube of oiled silk lined with the thin gut of some small animal to make it air-tight, and attached to the extremity of a small canula, by which it is distended with air or water from a bag or syringe at the outer end, with a stop-cock or valve to keep the air or water in when received."

For the particular description of the whole apparatus, we refer the reader to Dr. Arnott's treatise.

"The only part of the preparation of the dilator requiring nicety of execution, is the attachment of the distensible tube to the conducting tube and wire, which must be at once very neat and very secure. The silk tube and lining gut should be tied on together, the artist taking care that the wire be kept exactly in the axis of the tube, or that the wrinkles or folds at the extremity be equal all round. The tyings may be made conical by notching the extremity of the silk, after two or three turns of the small strong waxed silk thread have been made round it, and then by continuing the thread completely over it. The tyings should then be smoothed by a coating of bougie wax, and if unvarnished silk has been used, the operation is completed by covering both the silk and the tyings with a bit of gut. The secure attachment of the distensible tube to the canula and wire is a matter of great importance; for, should the silk become detached in the canal beyond the stricture, it might happen that the combined action of the urethra and flow of urine would not be able to expel it, until the stricture were fully dilated; it behoves therefore the instrument maker and the surgeon, to be careful that there exist no such hazard."—(pp. 227-8.)

The distance from the orifice of the urethra of the stricture to be dilated must be first measured by a soft wax bougie, passed through a canula, which being gently pressed against the anterior surface, and opening of the stricture gives, on being withdrawn, an exact representation of the diseased part. This bougie, Ducamp called his "*sonde exploratrice.*"

The dilator is now to be passed into the stricture, its presence within it may be known by the distance of the stricture from the orifice of the meatus. (previously measured by the soft bougie,) and the peculiar sensation experienced by the passage of the knobbed extremity of the central wire through the compacted and uneven portion of the urethra. Dr. Arnott sometimes introduces the dilator through a canula. As soon as the

bag is sufficiently within the stricture, as much air is to be injected into it as the patient can easily bear; and during the time it remains in the urethra, the future admission or escape of the air is regulated by the sensations of the patient; that is, if the feeling of distension abate, more air may be injected, but if it should increase into pain, a little of the air may be allowed to escape.

Dr. Arnott enters largely into the evils and inconveniences arising from the use of ordinary bougies, whether by forced or gradual dilatation; and contrasts them with the advantages held out by the fluid dilator, both to the patient and practitioner. We must confess that the argument appears to us in favour of Dr. Arnott, and we are only sorry that a more extended practical application of his remedy has not been made. This we apprehend, must arise from a fancied difficulty either in the preparation or employ of the instrument. Ducamp was eminently successful in the application of his dilator, and we cannot understand why the same application has not been made of the original invention in this country. There is one evil to which we are afraid the fluid dilator is liable, although this may be avoided by limiting the size of the dilator when fully distended, and being extremely careful in the application of the distending force. The accident to which we refer is rupture of the urethra; one case is even related of it by Dr. Arnott, in which the application of the principle was made by the patient himself, "who in 1834 employed the dilator invented by Dr. Arnott; from which considerable relief was obtained. In 1841 finding the disease had returned, and that the stricture had nearly closed up again, he attempted to use the dilator himself, and in doing so, had the misfortune to burst the urethra, and thus break a passage into the rectum." We suppose in this case, the stricture was in the membranous portion of the urethra, and we must say that in instances where, in this situation, stricture exists, and the elasticity of the walls of the urethra are destroyed, rupture of the urethra from the employment of the fluid dilator is not unlikely, without the greatest caution, to occur.

The next mode of treating strictures is by the application of armed bougies to the diseased portion of the urethra. Mr. Wade revives the practice of Mr. Whateley, namely, the use of bougies armed with potassa fusa. This practice, very successful in the hands of the latter surgeon, had fallen into disuse, but has been again employed, and apparently with success, by Mr. Wade. The cases in which the potassa fusa may be employed with hope of success are, according to Mr. Wade, hard fibro-cartilaginous strictures, impervious to instruments without the employment of injurious pressure; hard strictures of long standing, which, although admitting the passage of a small bougie, bleed freely on its introduction; irritable strictures; spasmodic strictures, not arising from acute inflammation of the urethra; and strictures which have a marked disposition to contraction. In order to observe the effect of the potassa fusa, on strictures of the urethra, Mr. Wade applied it, in the same manner as in stricture, to hard spots upon the tongue, caused by slight thickening of its mucous and submucous tissues. "The part in immediate contact with the potash quickly changes to a deep brown, surrounded by a small circle, and a little bloody serum oozes out. For two or three days afterwards the surface has a whitish appearance, and, at the end of a week or less, usually looks quite healthy; no ulceration ensues."

Mr. Wade concludes that the caustic potash acts beneficially upon strictures: first, by its dissolvent powers; secondly, by promoting absorption, and stimulating the congested vessels to contraction; thirdly, by relieving irritability and inflammation.

Mr. Wade believes the potassa fusa to possess great superiority over the argenti nitras in opening a stricture. It does not occasion a slough,

and hence the painful sensation produced by the urine passing over an ulcerated surface is avoided.

The following directions are given by Mr. Wade for the employment of this remedy:

"Before using the potash, a bougie should be passed down by the stricture, that its distance from the orifice of the urethra may be correctly ascertained. A small piece of potassa fusa should be inserted into a hole made in the point of a soft bougie; the eighth part of a grain is the smallest and a grain the largest quantity I am in the habit of using; but it will be rarely necessary to exceed the sixth of a grain. It will be well to make two notches on the bougie containing the potash; one marking the exact distance of the stricture, the other an inch beyond; as, very probably, on introducing the armed bougie, the first mark may be concealed within the urethra, from the penis being more stretched than when the measurement was taken. The bougie must be well mounted round the potassa fusa, so as to prevent the alkali from projecting; and it should be so placed, that it may be more applied to the upper than the lower part of the stricture for obvious reasons. Armed bougies should be well rounded at their points, to guard the urethra from the action of the potash before it reaches the stricture. In very bad cases it may be advisable occasionally to use the potassa fusa in the recumbent position, as it will then not only be the best applied to the surface of the stricture, but be most likely to penetrate its texture, which, in old and hard obstructions, is very desirable. . . To impervious strictures, from 3 to 4 are the sizes of the bougies I generally employ when using the potassa fusa; and to such as are pervious, they should be used of a size or two larger than the obstruction which the point of the instrument should penetrate. The armed bougie must be rapidly passed down to the stricture, and held against it with gentle but steadily continued pressure, for one, two, or three minutes, according to the nature of the obstruction, which, if very irritable and readily bleeding, the shortest time, or even less, should be at first selected as the most prudent course."

In ordinary cases this remedy may be applied every second or third day. In irritable strictures it may be well to allow four days to elapse between the applications. All the irritation produced by one application must be allowed to subside before a second is resolved on. "The potassa fusa should be kept in a phial with a ground glass stopper It should not be broken till required for immediate use."

According to Dr. Arntzenius, in cases of strictures absolutely impervious, the practitioner has always four methods from which to choose, namely, the forcible catheterism of Dessault and Boyer, the forcible injections of Amussat, the puncture of the bladder, and the cutting into the urethra behind the stricture. Against the first, objections cannot, he holds, be too strongly stated; it is always a dangerons, often an unsuccessful, and sometimes a fatal proceeding, and the chances must always be that more harm will be done by it than good. The violent injection of warm water can be useful in very few cases, and even in the very rare iustances for which (imagining them to be common occurrences) the plan was originally invented, namely, those in which the strictured part is completely closed by a lump of mucous, the injection of water is not preferable to the introduction of a bougie, but commonly produces more pain. The puncture of the bladder above the pubis is at once the easiest and the safest operation; its danger has been much exaggerated, and it is most probable that the deaths that have followed its adoption have resulted not from its effects, but from its not having been performed sufficiently early. The puncture through the rectum is preferable to it only in the few cases in which the bladder lies very deep and far back; and the puncture through

the perineum should be adopted only when effusions of urine has already taken place. The last mode of operation, by cutting into the urethra behind the stricture, is peculiarly adapted to cases in which the retention depends on obstruction by foreign bodies in the canal, or in which the urethra is manifestly very much dilated behind the stricture; but in others, the uncertainty of finding that portion of the urethra which is to be cut into, and of finding it sufficiently healthy for the introduction of an instrument, form important objections to this method. (Arntzenius, pp. 378-83.)

The propriety of these conclusions is now proved, we believe, by the experience of the best surgeons.

"It must," says Mr. Cooper, "be continually borne in mind, that all danger is not obviated by the avoidance of force; for the gentle use of the instrument may produce equally bad effects if it be injudiciously handled. On first examining the stricture, either a silver catheter or a bougie may be used for the purpose of ascertaining its seat and condition. No. 6 is the best-sized instrument for this object: it is nearly of the size of the urethra, and is much less likely than a smaller one to get entangled in the lacunæ of the canal. When the instrument is first passed down to the stricture, gentle pressure should be exercised, and, if its passage be resisted, should be continued for a few minutes. If the obstruction be owing to muscular spasm, continued pressure of three or four minutes will be sufficient to overcome the contraction; if, after that time, however, the obstacle does not yield, its persistence evidently depends upon the density of an adventitious deposition. When, in such a case, no great pain is experienced by the degree of pressure hitherto employed, and no bleeding occurs, force may be used to the full extent considered safe by the surgeons; but if this is still ineffectual, no further mechanical means should be had recourse to, (unless the bladder be much distended and the symptoms of retention urgent,) but leeches to the perineum and a purgative draught should be prescribed. It generally happens, in cases of no very long standing, that benefit is at once derived from this treatment; and I have frequently seen the patient recover after it had been adopted for three or four alternate days; but in cases of older date, great difficulty of micturation is often found to remain, in spite of it. To combat this system, the application of the bougie should be continued; as it is now ascertained that the difficulty of directing the instrument into the bladder depends upon the density of the stricture, and not upon muscular contraction. A new indication now, therefore, presents itself, namely, the removal of the adventitious matter; this is most readily effected by maintaining an equable degree of force on the surface of the stricture, which induces inflammation and softening down of the newly formed-substance. In the course of a few days, suppuration will be found to have been set up; after which, five or six repetitions of the application of the instrument will be sufficient to effect its passage through the obstruction; and thus will be performed a cure of stricture in what I may term its second stage.

"It is in this second stage that the precaution which I have alluded to above is necessary; for it is requisite to be as cautious with respect to the precise direction given to the instrument when thus gently applied, as when force is used to push the catheter or sound into the bladder; inasmuch as, without proper attention to the direction of the instrument, a false passage is as likely to be produced in the one case as in the other. This I shall shortly be able to show by relating cases in point. If gentle pressure be repeatedly made against the sides of the urethra, instead of the stricture itself, the mucous membrane naturally yields to the continued pressure of the instrument, and a new passage is gradually produced, which by violence is frequently effected at once. When an opening has thus been formed in the urethra, it is not a necessary consequence that

any train of symptoms should at once point out the error which has been committed. On the contrary, from the comparative facility with which the instrument passes onwards towards the bladder, the surgeon fancies, at first, that he has overcome the true source of obstruction, and indeed frequently succeeds in reaching the bladder with his instrument, having pushed it again into the urethra or through the prostate gland: a flow of urine then ensues, which gives him reason to suppose that the cure is complete. On the other hand, however, the urine is sometimes extravasated, as soon as the false passage has been made; and abscess is formed in the perineum, and all the symptoms follow inseparable from such a state of things, requiring, at once, the laying open of the perineum, and the evacuation of the extravasated urine; and leading to the abandonment of the gentle mode of treatment, for the cutting through of the permanent stricture."

British and Foreign Medical Review, April, 1842. *pp.* 312-323.

49.—TREATMENT OF INJURED INTESTINE FROM A BLOW UPON A HERNIAL SAC.

By C. Aston Key, Esq., Surgeon to Guy's Hospital, &c.

[Accidents of this kind usually occur either by a direct blow, or by the person being forced against some hard body.]

The extent of injury which the intestine sustains will vary according to the violence of the blow. The contusion may be insufficient to burst the bowel, or to occasion such a lesion of tissue as shall end in gangrene, its effects being only inflammation of the coats of the intestine: or the violence may be such as at once to rupture the intestine; or, failing to rupture the bowel, the contusion may be so severe as to be followed by sloughing and escape of fæces. These three states require distinct consideration, as the treatment required for each necessarily varies.

The mildest form of injury which a blow inflicts on a hernia is analogous to the contusion of other soft parts. The smaller vessels of the mucous and other tissues being ruptured, pour their contents into the reticular membrane, and thus gorge it with extravasated fluids. Such contusions, it is probable, are not followed by any serious consequences: the fluids will be quickly absorbed, the mucous lining and the serous covering of the bowel remain free from inflammation: neither will there be any symptom to lead to the suspicion that the bowel has suffered, beyond a certain degree of inaction in the muscular coat, giving rise to temporary constipation. Collapse, vomiting, and abdominal tension, are wanting, to give a character of severity to the injury.

The two first indications that immediately force themselves on the surgeon's attention, are, the necessity of returning the contents of the hernial sac, and obtaining free evacuations from the bowels. To the former of these proceedings there can be no objection, as the vitality of the bowel is scarcely endangered: and if it were left in the sac, adhesion might form between the injured bowel and peritoneum, that would afterwards interfere with its return into the abdomen. The administration of purgatives ought to be wholly abstained from, notwithstanding the confined state of bowels usually consequent upon an accident of this nature. A bruised bowel is placed by nature in a state of rest: the exhaustion of the nervous energy of the part diminishes in the muscular tissue the disposition to contract. Such inactivity of the bowel should be encouraged, and not thwarted by irritating purgatives. The safety of the bowel depends on the non-occurrence of inflammation; but if, by undue interference, the

bruised structure is hurried into a state of inflammation, sloughing or ulceration will probably be the result. Beyond an occasional enema, to unload the larger intestines, nothing need be done. Opium may be required, if pain come on, indicating peritonitis; and if joined with calomel, care should be taken that the action of the former should preponderate, in order to prevent the probability of stimulating the bowel. Food should also be given in the smallest quantity, and in a fluid form, that little or no feculent residue may remain, to oppress the part. In this respect, nature is our guide: vomiting, which usually ensues immediately after the accident, empties the upper part of the canal; and the little desire that the patient feels for food, prevents, if nature be allowed her own way, any chance of repletion. Thus the part is placed in a state of repose; and the circulation soon regaining its healthy condition, the functions of the intestines are restored.

The necessity for repose in an injured state of bowel it would be well to bear in mind, after the operation of strangulated hernia. The bowel is gorged by the strangulation, bruised by the taxis as it is too often practised, or inflamed by long incarceration in the sac. An intestine in such a condition cannot but be injured by an early administration of purgatives, which irritate and inflame the bowel, or exhaust what little remains of vital energy. After the operation, some time for repose should be allowed before the bowel is called into action: the surgeon's anxiety to procure stools, should yield to the evident necessity for time being allowed for the restoration of the natural powers of the injured bowel.

If the contusion be so severe as to destroy the vitality of the bowel without rupturing it, the condition of the patient, both immediately after the accident and for several days subsequently, sufficiently attests the severity of the lesion which the part has sustained. The hernial sac is usually found filled with the injured bowel; but the absence of distention serves to distinguish it from a state of strangulation. The integuments appear to be bruised, though sometimes but slightly. The part is very tender when handled, but feels soft and pliant; and very moderate pressure is sufficient to reduce the contents of the sac.

The shock which the nervous system receives, is followed by a feebleness of the circulation, a corresponding pallor of the whole surface, and a sense of syncope. This condition is, however, only transient: re-action almost immediately ensues; the patient passing from the state of collapse, and gradually rising into a state of inflammatory excitement, as the injured bowel becomes the seat of more or less inflammation.

The speedy recovery of the patient from a state of collapse, quickly dissipates the suspicion of a rupture of the intestine; and the surgeon usually endeavors to replace the contents of the hernial sac as soon as re-action takes place. To this proceeding there is no objection, if it be done with gentleness. The danger of abdominal extravasation will not be increased by replacing the injured bowel at the neck of the sac; for should sloughing of its coats ensue, the slough may be walled in by adhesion of the surrounding peritoneum, and fecal extravasation be prevented; or, should this salutary process of adhesion fail to insulate the slough, the sac will receive the fecal matter, and quickly give intelligence of the impending mischief, by the tumefaction that will ensue within the scrotum.

The symptoms that arise in this state of things, in some points resemble those of a strangulated bowel. The rejection of food from the stomach, the difficulty of obtaining stools, the tense and tender belly, and the swollen state of the scrotum, all lead to the impression that a portion of the intestine has passed down through the rings, and has become incarcerated.

[Mr. Key then brings forward several interesting cases, to shew the treatment he adopted when the intestine had been injured, and where escape of the fæces into the peritoneal sac was apprehended. In the first case, the man had received a blow upon the pad of his truss, which he wore for a reducible scrotal hernia. Violent symptoms came on, and Mr. Key ultimately opened the sac, in which he found neither intestine nor omentum, but which contained a firm, fibrinous deposit, which adhered to the serous surface of the sac, and also extended upwards into the neck of the sac, so as to close all communication with the abdominal cavity. The man experienced no relief for three days, when a copious discharge of fluid fæces from the sac took place, and the urgent symptoms soon subsided; the fæces continuing to pass freely for four days, when natural defecation took place, and granulations soon closed the intestinal opening. In the second case, the man received a violent blow upon his hernia, which was followed by such severe symptoms, that Mr. Key concluded the bowel had been severely injured: and, for fear of fecal extravasation into the peritoneal cavity, he determined on opening the sac, as in the former case, with the view of affording an exit to the contents of the sac, if the fæces should have escaped into it.

On the fourth day after the operation, fæces escaped by the wound, and entirely relieved the patient. On the seventh day, the fæces passed by the rectum, although they still continued to pass through the wound for five or six weeks afterwards; when ultimately the part completely healed, and the man was dismissed quite cured.

Other cases are related of a somewhat similar kind, which occurred many years ago, which proved fatal; and in which no such attempt by operation to relieve fecal extravasation had been made; although the post-mortem appearances would have warranted a similar operation. Mr. Key then goes on to say:]

The results of the foregoing cases, together with the remarks that I have appended to them, may not be without some use, in drawing the attention of surgeons to the danger attendant upon these accidents, and to the possibility of rescuing the patient, by a timely operation, from the necessarily fatal consequences of fecal extravasation into the cavity of the abdomen. To distinguish between the three degrees of injury to the bowel that I have ventured to suggest as the ordinary effects of blows upon a hernial sac, does not appear to be difficult, if due examination be made of the parts injured—if the exact seat of injury be carefully ascertained—and if care be taken to draw correct information from the facts as they present themselves.

It does not appear that persons are always aware of being the subjects of hernial protrusion: some, from carelessness, failing to notice the existence of a rupture; and others, from design, concealing their knowledge of the circumstance, when closely questioned as to enlargement at the rings. In two of the cases related, the patients did not seem to have been aware of any hernial swelling before receiving the blow. The history, therefore, of these cases, given by the patients, cannot be wholly relied upon. Their ignorance of the fact is not to be taken as evidence of a rupture not having existed previously to the blow: and it is of no little importance to establish the existence of a hernia; as without it, a rupture of a bowel is in the highest degree improbable, by a blow received upon the pelvis, or scrotum, or even upon the inguinal canal. Careful examination of the abdominal rings, and of the canal, can alone decide the absence or presence of a hernia, and establish the probability, or otherwise, of the bowel being ruptured, so far as the existence of a hernia may favour it.

It may be urged that the symptoms following upon a bruised intestine, or even upon a contusion of the testicle, may closely simulate those of a ruptured bowel. After these injuries, pains of a severe kind are felt about the scrotum and groin; the parts cannot endure rough handling, and vomiting sometimes follows. But these symptoms are transient; the shock passes away, and re-action ensues. The peculiar distress of countenance characteristic of ruptured bowel is wanting in the less severe injuries of these parts; and it is only the continued and increased urgency of symptoms that fail to be relieved by the mild means resorted to, that should induce a surgeon to take the more serious view of the injury.

The period and manner in which the signs of lesion to the bowel shew themselves will serve sufficiently to point out to the surgeon the course which he is to adopt The unnecessary exposure of a hernial sac and its contents is as much to be avoided, as delay is to be deprecated when extravasation of feculent matter is taking place. The former, however, is far the lesser evil; as experience shews that, in cases erroneously supposed to be strangulated hernia, the operation of opening the sac has been productive of no mischief. It is not likely that a surgeon, without ordinary discretion and knowledge, will be liable to mistake a mere external contusion, be it ever so severe, for a burst or injured bowel; nor will he be under any embarrassment how to proceed under the varieties of lesion to which the bowel is subject. The interval of ease that sometimes follows the blow, will not be taken as evidence of the bowel having received no lesion; for it seems, that until the peritoneum suffers from the presence of irritating matter, liquid or gaseous, upon its surface, the constitution does not take alarm. In the most severe injuries, when the rent in the bowel is extensive, and the fecal effusion almost instantaneous, the symptoms at once assume a character too marked to be mistaken; and the only mode of affording relief, namely, that of at once opening the hernial sac, is obviously pointed out. When the opening is so small, as to prevent, for a time, any escape of the contents of the intestine, there is no necessity for any decisive step being taken, until called for by the unequivocal collapse and pain that attends extravasation. The interval of ease may lull for a time all suspicion as to the occurrence of rupture; but when extravasation begins, and not before, the surgeon's interference is called for; and no time should then be lost in affording an outlet to the offending fluids.

Guy's Hospital Reports, No. 14, *April* 1842, *p.* 261—277.

50.—ON INTESTINAL OBSTRUCTION FROM STRICTURE OF THE SIGMOID FLEXURE OF THE COLON.

By T. P. Teale, Esq., F.L.S., Surgeon to the Leeds General Infirmary, &c.

Several attempts have been made to relieve congenital or acquired obstructions of the lower part of the intestinal canal by the establishment of an artificial anus; and different situations have been selected for the preternatural opening—namely, the perineal, the iliac, and the lumbar regions The perineal operation is only applicable to cases of congenital obstruction. Acquired obstructions require the opening to be in the anterior or lateral part of the abdomen; and the operation in this situation is applicable also to congenital obstructions, and may be performed in such cases as are considered irremediable by an artificial opening in the perineum.

In 1720, M. Littre originally proposed the formation of artificial anus in the iliac region. According to his plan, the abdominal walls and the *peritoneum* were divided, and the distended intestine was to be drawn out at the wound, and opened. He further proposed to retain the intestine in the vicinity of the wound by a ligature passed through the mesentery, which

should be allowed to remain a few days, until the bowel had become united by adhesion to the external wound.

M. Pillore, in 1776, modified the iliac operation of M. Littre, by uniting the wound of the intestine to the parietal wound by several points of suture.

The operations of Littre and Pillore have been performed in numerous instances. In the article, Fistula Intestinal of the "Cyclopædia of Practical Surgery," I have arranged in tabular order twenty-four such cases, from which it will appear, that in several instances, the operation has been successfully performed, but at the same time it is evident that the mortality was considerable; and in most instances, where the cause of death is stated in the reports, peritoneal inflammation led to the fatal result.

To obviate the danger incurred by opening the peritoneum, M. Callisen, of Copenhagen, proposed to open the colon in the lumbar region, where it is only partially covered by peritoneum, and he maintained that the intestine might be reached in this situation without opening the cavity of the abdomen. To accomplish this object, he proposed to make a vertical incision, extending from the edge of the false ribs parallel to the anterior border of the quadratus lumborum muscle. He thus hoped to reach the colon between the layers of its short and imperfect mesentery. The principal objection advanced against the operation of Callisen, was, that in most instances it would be found impracticable, as the colon in the lumbar region was generally attached by a mesentery of considerable extent. It was, moreover, urged that Callisen himself found great difficulty in executing the operation on the dead body, and that in many instances he failed, the peritoneum having been unavoidably opened. Most surgeons, amongst whom was Dupuytren, agreed in condemning Callisen's proposal, and gave the preference to the iliac operation of Littre or Pillore, until within the last three or four years, when the operation of Callisen has been revived and modified by M. Amussat. This accomplished surgeon has shown that the failure of the operation on the dead subject was owing to the intestine being empty, and that in such cases as require the formation of an artificial anus the colon is greatly distended; in which condition, the layers of peritoneum, forming its imperfect mesentery, are so far separated as to allow of the intestine being reached without opening the peritoneum. He has farther introduced an important modification of the operation of Callisen by adopting the transverse instead of the vertical incision of the integuments and muscles.

M. Amussat has performed the operation five times. Four of the cases were perfectly successful. The subject of the fifth case died on the tenth day from the progress of the carcinomatous disease, but had experienced great relief from the artificial opening.

The case which I now submit to the profession affords another instance of the easy practicability of the operation, and of the relief which it is capable of affording. Had it been performed a few days earlier, before the cæcum had been irrecoverably injured by extreme distension, it is not improbable that the result would have been fortunate.

[The patient, Mrs. Wager, had been subject to constipation from her youth; and from certain causes, on the 18th of February, complete obstruction occurred. On the 1st of March Mr. Teale first saw the case, and on passing a small ivory ball attached to a silver stem up the rectum, it was arrested at the distance of about six and a half inches above the anus. Powerful injections were tried in vain, as they did not pass the strictured portion; and it was ultimately agreed to make an artificial anus in the lumbar region. This was done in the presence Mr. Samuel Smith, and William Hey. It was decided to open the

colon after the manner of Callisen, modified by M. Amussat. It was supposed that the upper part of the rectum was contracted, and that the constriction might extend to some little distance, but that the descending colon was not implicated, on account of the prominent elastic and highly tympanitic state of the left lumbar region, for this reason the left lumbar region was selected for the operation, which is thus described by Mr. Gibbes.]

The patient being placed upon a table, on the right side, with the face and abdomen inclining downwards, Mr. Teale made an incision through the integuments four and a half inches in length, extending forwards from the outer edge of the sacro-lumbalis and longissimus dorsi muscles, midway between the lower ribs and the crest of the ilium, nearly parallel to the latter. The different layers of aponeurosis and muscle having been divided in succession upon a director, a considerable mass of fat was forcibly protruded at the wound. By the finger the packets of fat were detached, and the posterior surface of the colon was very readily felt, extremely tense and elastic, and was soon exposed to view, its pale blue tint and translucent aspect contrasting strongly with the opaque white fat in the neighbourhood. Two temporary ligatures were passed through the muscular and mucous coats of the colon, and a considerable quantity of air escaped through the punctures, which so far diminished the tension of the intestine, that Mr. Teale was enabled to pinch up a fold of it, and to open it with the scalpel, after which there was a profuse discharge of air and liquid fæces. The opening in the intestine was further dilated in a vertical direction by a probe-pointed bistoury, to such an extent as to allow of the introduction of three fingers. The edges of the intestinal aperture were then fixed to the external wound by four points of suture, and the wound of the integuments was united by two twisted sutures. The operation being completed, Mr. Teale, and other surgeons present, introduced the forefinger into the artificial anus, and ascertained that the colon immediately below the aperture formed a thickened corrugated pouch, from which no opening into the lower part of the intestine could be detected, without instituting a more tedious search than was considered justifiable. The intestinal tunics forming the pouch, although much thickened, and firmer than natural, did not communicate to the touch the indurated feeling of scirrhus. On passing the finger upwards into the descending colon, it was found to be capacious, its coat thin and elastic, possessing a perfectly healthy structure.

[The patient experienced considerable relief after the operation, and in many respects might be said to be doing well for several days; the fæces finding their way through the wound regularly. Bronchitis, however, came on, on the fifth or sixth day, and she rapidly sank.]

Examination of the body four hours after death.—On opening the abdomen a considerable quantity of liquid and solid fecal matter was found in the pelvis, and a large ragged opening, through which the fæces had escaped, was seen in the cæcum. The coats of the cæcum were extremely thin and softened, and dilated into a large pouch, which adhered to the neighbouring folds of intestine. The mucous membrane of the cæcum was of a deep red colour, and exhibited some small superficial ulcers. These morbid appearances were entirely limited to the cæcum. The ascending, transverse, and descending portions of the colon were empty, and appeared perfectly healthy. The artificial opening had been made at the lower part of the descending colon. The site of the operation could not be detected by examining this portion of the intestine from the opened cavity of the abdomen, nor was there the slightest trace of peritoneal inflammation, or lesion of the peritoneum, in the neighbourhood of the descending

colon. Immediately below the artificial opening, the coats of the intestine were thickened; the mucous membrane had a granulated feel, and there existed at this part a firm, circular stricture, that would only allow of the passage of a full-sized urethra bougie. This stricture was situated eighteen inches below the anus. Below the stricture, as far as within six or seven inches of the anus, the intestine was reduced much below its natural calibre, but its coats did not exhibit any obvious alteration of structure. So great was the contraction of this part of the tube, that the tip of the forefinger was very tightly embraced by it throughout its whole extent, but by using a considerable degree of force the coats of the intestine admitted of being dilated to such a degree as to allow the forefinger to be pushed through successive portions of the tube, until it reached the upper part of the sigmoid flexure, when it was firmly arrested by the unyielding and contracted coats of the bowel; these, however, did not exhibit in the slightest degree the induration or altered structure characteristic of carcinoma.

The left pleura presented numerous recent adhesions. The bronchial mucous membrane was a little injected, particularly in the smaller ramifications. A small portion of the middle lobe of the right lung was hepatised; heart and pericardium healthy.

Provincial Medical and Surgical Journal, March 19, 1842, *p.* 486.

[It appears from the perusal of all the cases related by Amussat, as well as this one of Mr. Teale's, that the subjects were more or less advanced in life. This interesting operation, however, may be applicable to the earliest periods of life, as will be seen in the following case of Mr. Parrott. It occurred in an infant whose mother was thirty years of age, and in every respect healthy.

The nurse observed that that the infant parted with no meconium, and, on examination, found that some obstruction existed. It was found that a cul de sac existed about an inch and a-half from the anus. M. Larrey plunged a trochar into the cul de sac, but no meconium escaped: the child was taken to Dr. Amussat when it was forty-eight hours old. This gentleman was of opinion, that about two inches from the anus there existed an interruption of the rectum, the calibre of the gut being at this point totally obliterated. It was also his opinion, that an artificial anus could not be made either in the anal or coccygeal regions, and he therefore was determined to open the colon in the left lumbar region.]

The child being placed on his right side, a transverse incision, about two inches in length, was made midway between the crest of the ilium and the last false rib, commencing at the external border of the sacro-lumbalis and longissimus dorsi: the subjacent textures having been divided, the celular and adipose tissue covering the kidney and colon was exposed. This was now, after a long and careful dissection, divided, after a great deal of uncertainty. The lower extremity of the kidney was fully exposed to view, but the intestine could not yet be recognised. The incision was, therefore, enlarged backwards and downwards (with an artificial light, the shutters having been closed), and Dr. Amussat saw (for his feeling did not afford him any certain indication) something of a violet colour, which he judged to be the small intestine, placed outside and before the kidney. That was pushed backwards, and the colon at length detected. Two tenacula were now introduced longitudinally, one from above downwards, the other in a contrary direction, in order to prevent any retraction of the bowel, and a longitudinal incision afterwards made. A considerable quantity of gas and meconium escaped. The edges of the opening in the intestine were fixed to the integuments by means of three sutures, and tepid injections administered. The hæmorrhage which occurred during

the operation was easily suppressed by means of torsion. The artificial anus was now covered by a hot cataplasm, and the child removed home.

[The case improved daily, the wound looking healthy, and the fæces continuing to pass through it regularly. On the fourteenth or fifteenth day, the fæces were obstructed for forty-eight hours; bougies were introduced and injections used, and the fæces passed once more. The case continued to do well.]

Medical Gazette, March 25, 1842, *p.* 16.

51.—ON TAPPING OF THE THORAX.

By JOHN SNOW, Esq., M.R.C.S.

[Although paracentesis of the thorax is not frequently called for, we are occasionally obliged to have recourse to such an operation, in order to liberate liquid or gaseous bodies. The lungs themselves, by their elasticity, might assist materially in expelling any air which they contain, were they pressed upon by the atmosphere with equal force on their internal and external surfaces. But this is not the case, for so long as the walls of the chest are entire, the atmosphere is prevented from exerting its usual pressure externally; it can only do so internally: but when we make an opening externally, either by the lancet or trocar, the atmosphere then exerts its pressure externally as well as internally; and such external pressure would effectually prevent the power of the lungs to expand. In the operation of tapping the chest, therefore, Mr. Snow has suggested the following instrument, which seems well adapted for the purpose; as it promises to prevent the introduction of air into the thoracic cavity. Dr. Davidson, of Glasgow, has been in the habit of applying cupping-glasses over the canula introduced for empyema, in order to withdraw the fluid, and prevent the ingress of air. Mr. Snow describes his instrument as follows:]

By its means any fluid can be withdrawn from the chest, without making a direct communication between that cavity and the external air. It consists of trocar and canula with a stop-cock in it, the trocar to pass through the open valve of the stop-cock. A portion of the trocar must be made perfectly cylindrical, and to fit accurately the whole length of the canula. In withdrawing the trocar from the canula after their joint introduction, it must be brought so far as to be clear of the stop-cock, which point is indicated by a mark on the trocar, and then the stop-cock must be turned before the complete removal of the trocar. The portion of elastic tube must now be screwed to the canula; and to this tube must be screwed a double action syringe, with two distinct valves, like a stomach-pump. The valve of the stop-cock can now be re-opened, and by working the pump, the contents of the pleura, whether gaseous or liquid, will be withdrawn. It is evident that not a particle of air can enter the pleura, and that the integrity of the chest as a pneumatic apparatus is not impaired during the operation. Before introducing the trocar, the skin must be drawn a little from its situation, and then by withdrawing the canula slowly at the end of the operation, the correspondence between the superficial and deeper wounds will be lost before air can enter the pleura.

If the lung be already firmly bound down before resorting to the operation, in a case of effusion, it will not be practicable to draw off the whole of the liquid. In such a case the resistance to using the pump, and the sense of uneasiness in the patient, will indicate when to stop, as in using the enema pump; and if the liquid be serum, it will be preferable to leave

a little in the thorax; if, however, it be pus, the pump can be removed, and air admitted to allow of its complete removal.

This instrument must possess great advantages in the cases in which paracentesis is at present performed, and it will extend the occasions on which the operation may be resorted to with safety and advantage.

Medical Gazette, Jan. 28, 1842, p. 707.

[There certainly is not so much objection to the introduction of air into the thorax after paracentesis as is generally supposed; for, notwithstanding the pressure of the air externally, the lung will frequently expand with the motion of the chest, unless bound down by adhesions; and the air introduced through the wound will often be absorbed in a few hours. An instrument somewhat similar in principle to this of Mr. Snow's, is mentioned by one of the German writers; which is on the plan of the old enema apparatus. "It consists of an empty bag, which is drawn over the trocar and canula, and fastened to the chest by adhesive plaster: the trocar when withdrawn, is allowed to fall into the bag, into which the liquid follows."—(*London Lancet, Jan.* 1, 1842, *p.* 499.)

Dr. Prichard, physician to the Bristol Infirmary, has been accustomed for some time to evacuate the fluid in hydro-thorax, as well as in abdominal dropsy, by means of the common grooved needle. He says:]

During the use of the common grooved needle for exploring the chest, on ascertaining positively the presence of fluid, previous to paracentesis, it happened on one occasion, at the Bristol Infirmary, that so large a quantity of fluid passed readily through the instrument as to preclude the necessity of any further operation. As paracentesis of the thorax, by means of a trocar, is much more painful than the introduction of the needle, and is sometimes followed by troublesome results, I determined to try for the future whether the same success would follow the use of the latter instrument. In many instances this was found to be the case, but occasionally the fluid was too thick to run off through so small a passage. This was obviated by getting a needle made with a larger groove. Such a needle has been used with perfect success in every case of the kind that has fallen under my observation during the last year or two, and the number has been considerable. The pain is so slight, that a patient, who has once experienced it, totally disregards it, in the desire of that relief which he has obtained, and has called eagerly for a repetition, to which he has submitted to as a trifling annoyance.

I have now a patient in the Infirmary, a female aged fifty, lately affected with ascites. She had been twice tapped by means of the trocar. When she was full a third time, I proposed a third paracentesis. She earnestly deprecated it on account of the pain which she had suffered from the trocar on a former occasion. It occurred to me to try the grooved needle, and it was accordingly passed through the linea alba, and the patient was relieved. It is worthy of note that the effusion of fluid has not returned. The woman, although previously in a state of very broken health, appears now, after the interval of some weeks, to be convalescent. I think it just possible that paracentesis by the needle, may be less favourable to a return of effusion in cases of ascites, as it is known to be in those of hydrocele. Whether this may be the fact or not, I am sure that great advantage will arise to patients if the use of the needle be substituted for that of the trocar in tapping both for ascites and for hydro-thorax. I am persuaded that the practice of deferring paracentesis in the former disease till all other means, many of which are very exhausting ones, have been long tried, and have entirely failed, is one principal cause of the frequent return

of effusion. The use of the needle affords so much greater facility that the operation will cease to be dreaded, and will be performed more easily, and if so, with more frequent ultimate success.

Medical Gazette, March 25, 1842, *p.* 19.

[Perhaps an improvement on this instrument is the minute trocar and canula, first used by Dr. Babington, and recommended very strongly by Dr. Golding Bird, in the treatment of a case related to the Westminster Medical Society:]

Dr. Bird laid before the society an instrument invented by Dr. Babington, as preferable to the grooved needle: it was a very small trocar and canula, which, together, were not thicker than an ordinary grooved needle, and a probe which would pass through the canula. He (Dr. Bird) had often used the grooved needle to diagnosticate empyema, and had found at different times that no fluid escaped by it when the chest contained plenty, as was afterwards proved by operation; this arose from the tissues filling up the groove of the needle, an event the trocar would obviate. Empyema was never a true effusion of pus, but only of a puriform-looking liquid; and the grooved needle often separated the serum from the small concretions of albumen, and caused an empyema to be thought a simple serous effusion, but the small canula would be more likely to show the true nature of the effusion. Moreover, the grooved needle might cause a little serum to ooze from the cellular tissue of any part of the body, more especially if there were any inclination to œdema, and would thus lead to a false conclusion; but such a minute escape of serum by the canula would not mislead in that way. He related a case in which there was effusion into one side of the thorax. This little trocar was introduced, but no fluid escaped; and on passing the probe through the canula, the lung could be felt distinctly; no ill effect followed this tentative measure, and the case turned out to be one of rapid softening of the lung after tubercular deposit. Dr. Babington had used the instrument to diagnosticate an obscure tumour filling the right hypochondrium and flank; a thick, dirty fluid escaped, and the probe could be passed to any extent without meeting with resistance, showing that the tumour contained some viscous fluid; no ill effects followed this measure, and when the patient died, the tumour was found to consist of an enormously distended gall-bladder.

London Lancet, April 9, 1842, *p.* 60.

32.—VESICO-VAGINAL FISTULA CURED BY THE ACTUAL CAUTERY.

By S. A. Payan, M.D., F.R.S.E.

[Most practical surgeons are aware of the very great difficulty of treating these cases successfully. Hence the innumerable methods of treatment which have been proposed. "The climax of these, is a recent proposal to lay the urethra, bladder, and vagina, into one, by a bold stroke of the knife, and trust to granulation for a radical cure, as in other fistulæ."

In the case related by Dr. Payan, it was at Mr. Liston's suggestion that the actual cautery was applied to the fistula at *very long intervals*, viz., four or six months; and in this consisted the peculiarity of the treatment.

The fistula commenced after a severe and lingering labour of three days' continuance, which was completed at last by means of instruments.

There seems also to have been an opening in the rectum, but this gradually healed up.]

The urine dribbled away continually, so that she was never dry for a single instant; and she describes the irritation and discomfiture to have been so utterly intolerable, as to render life a burden to her. The size of the false passage was so considerable, that she could easily introduce into the bladder her middle finger covered with four piles of surgeon's lint.

[She at first placed herself under the care of Dr. Thomas Molison, who took the greatest interest in the case, and employed the most judicious means for its cure. Amongst other remedies, he applied the actual cautery in pretty quick succession, with the view of keeping up an inflamed, puffy, and raw condition of the edges of the orifice, and thereby promoting adhesion. But the great error in this, as well as in most cases where the actual cautery has been applied, seems to have been in not giving time for that contraction to take place which invariably follows the application of the actual cautery. The patient returned home, after some time, without experiencing much benefit. On her return to Edinburgh, two years afterwards, the orifice had considerably diminished in size, owing to the edges having contracted. It was even now large enough to admit the introduction of the little finger.]

It was agreed in consultation, that the actual cautery should again be had recourse to,—not, however, at short intervals, but with an intervening period of a few months.

Mr. Liston's experience enabled him to state, that no sudden advantage was to be expected from the operation; on the contrary, that the more immediate effects would apparently be to aggravate the evil, inasmuch as the disengagement of the slough might for a time increase the size of the opening; but that we might confidently look to accomplish a cure in time, through the consecutive effects of the cautery,—that process, namely, of gradual contraction, analogous to what we observe in the cicatrices of severe burns of the skin. Accordingly, it was carefully explained to the woman that the treatment would occupy a very long time, and that the operation would require to be frequently repeated. The parts were then touched with the iron at a red heat, and she was sent home, with instructions to return as soon after the expiration of two months as might suit her convenience.

Since that date, (April, 1833,) the cautery has been applied six times with intervals of two, three, or six months, according as the patient presented herself. Every successive examination afforded evidence that the aperture was slowly but progressively contracting, and the last two or three times it was not without some pains that we discovered it at all, though the oozing of the urine demonstrated its continued existence. The last time I had occasion to apply the cautery, was on the 22d August, of the present year, when my friend Dr. M'Whirter did me the favour of being present. The opening was then barely sufficient to admit a large-sized knitting wire; it had become somewhat sinuous, and acted as a valve in certain positions of the body, for she had been able for some time to retain a considerable portion of the urine when in bed, but it still continued to escape by the fistula when in an erect posture.

She is now (1835) in Edinburgh, and I have seen her within the last few days. She states to me that no urine has come away by the false passage since the last operation. The bladder appears to have lost all morbid irritability—permits itself to be freely distended, and is capable of holding the usual quantity of urine. The urethra has been considerably dilated by the long-continued use of the catheter, but she has, nevertheless, perfect command over the sphincter, except in making some violent exertion with the bladder pretty full; in such circumstances some urine does

escape occasionally, but this she hardly looks upon as an inconvenience, because it is easily prevented by a little attention.

London and Edinburgh Monthly Journal of Medical Science, Jan. 1842, p. 15.

83.—ON THE TREATMENT OF GANGRENOUS INFLAMMATION, PORRIGO, AND LEPRA.

By W. Davidson, M.D., Physician to the Glasgow Royal Infirmary.

[Dr. Davidson brings forward two cases of gangrenous inflammation, in one of which there appeared about ten weeks previously a sore upon the inner surface of the prepuce, three days after sexual intercourse: the integuments around the gland gradually became much swollen, until at last two gangrenous spots appeared, "one in the situation of the primary sore, the other near the frenum, which rapidly extended over the body of the penis, involving and destroying the corpora cavernosa and spongiosa of about two inches. The urethra appeared to be opened to a considerable extent, the whole presenting a deep, foul, and irregular ulcer, the edges of which were indurated and shelving, discharging a bloody fetid sanies. Nitrous acid saturated with nitrate of silver, was ordered to be applied to the ulcer daily, with an emollient poultice." In a very short time, the phagedænic ulceration was checked. The other case was somewhat similar. Dr. Davidson remarks:]

I have brought forward these two cases, not because there is any thing remarkable in them so far as regards the disease, although both of them were very severe, and illustrate the great danger of not acting energetically in endeavouring to check the progress of the destructive ulceration; but because I wish to show the utility of nitrous acid, or what appears to me superior, nitrous acid containing nitrate of silver in solution. Nitrous acid is well known to be a powerful means of checking gangrenous ulceration. It is mentioned by several writers, and is used occasionally in hospitals, yet as far as my knowledge extends, it is seldom employed in private practice, milder applications, in some cases from a mistaken delicacy, being substituted for it.

The efficacy of the nitrous acid, in the few cases in which it has been tried, has appeared to me to be increased by the addition of the nitrate of silver, inasmuch as it renders it more caustic, tends to diminish inflammatory action, and leaves an ulcer having more healthy granulations.

Strong nitrous acid, however, does not dissolve so much nitrate of silver as might be expected, and the weaker it is, it dissolves the more of this salt. I find by experiment that one ounce of nitrous acid, of sp. gr. 1414, dissolves nearly 14 grains of nitrate of silver, and that 7 drachms of this acid, united to one drachm of water, dissolve 20 grains. In preparing this acid solution of nitrate of silver, a little excess of the latter was always added, in order that complete saturation might be ensured. Some attention should also be given to the quality of the nitrous acid, for if it contain muriatic acid, chloride of silver will be formed at the expense of the nitrate of silver.

[The same gentleman also makes some valuable remarks on the use of *Ioduret of sulphur in Porrigo*, and other cutaneous affections. The cases are as follows:]

Charles Biggar, aged 10, a vagrant, was admitted on the 1st of February, 1840. Scattered over the whole of the head were numerous thick greyish patches of scabs, which, when removed, left the surface underneath

perfectly bare and shining, but in a day or two, numerous small pustules made their appearance, accompanied with considerable itching. The eruption appeared in the form of small pustules four years ago. In this case, the scabs were first softened by the constant application of poultices for two days; the head was then shaved. An ointment, composed of five grains of the bichloride of mercury to one ounce of axunge, was tried from the 5th February to the 12th, without any improvement. The following was then employed :—

℞ Iodur. sulphur. ℈ij.; Axungiæ, ℥ij. Misce.

This ointment was applied daily to the head; and in a few days a decided amendment was remarked.

On the 5th of March, the following report was taken.—Pustules and scales are now completely gone, but there are some bald patches on head in the situation of eruption; no itching; surface of skin pretty natural; general health good.

He was dismissed in a few days afterwards.

Case 2. James Riddell, aged 12, a weaver, was admitted on the 10th of Feb. 1840. The whole of the head and neck was covered with thick laminated yellowish scabs, which were easily removed. Some yellowish pretty large pustules were situated behind the ears, but on the scalp they were not distinct, the hair being matted together. A fetid ichorous matter was discharged, and numerous pediculi nestled every where on the head. He had had the eruption for two and a half years, but the general health was pretty good.

A poultice was applied for a day, after which the following ointment was applied, even before the shaving of the head, in order to extinguish the pediculi, which it effectually did in twenty-four hours.

℞ Iodur. sulphur., ℈ij.; Axungiæ, ℥ij. Misce.

He was dismissed perfectly cured on the 29th February, or in about a fortnight after the commencement of the ointment, the skin being quite natural in appearance, without itching, and the hair growing naturally over the whole head.

Case 3. Elizabeth Finn, aged 15, a servant, admitted 29th December, 1840. Scattered over the whole head there were numerous yellow pustules, from which there was a purulent fetid exhudation. The hair was matted together, and swarming with pediculi; bowels regular; tongue whitish; pulse 112.

℞ Iodur. sulphur., gr. xx.; Axungiæ, ℥j. Misce. App. ung. cap. bis in dies.

12th January. Porriginous eruption almost gone; no discharge, surface of scalp becoming more natural in appearance; general health good.

This patient was dismissed on the 18th completely cured.

Case 4. Duncan M'Intyre, aged 10, a singer, admitted 30th December 1840. The whole head, particularly the forehead, was covered with a thick dry greyish white crust, accompanied with itching, but without discharge. The disease was of four years' duration, and was represented to be of a very inveterate kind. General health good; bowels regular; tongue clean; pulse 80.

℞ Iodur. sulphur, ℈ij.; Axungiæ, ℥j. Misce.

14th January 1841, or a fortnight after the use of the ointment, the eruption is reported to be quite gone, and the skin covering the scalp natural in appearance.

As a precautionary measure, it was continued till the 22d, when he was dismissed.

Case 5. Ann Sloane, aged 7, admitted 2d June, 1841. About two and

a half years ago she received a wound on the right side of scalp with a fire-shovel, which suppurated for a considerable time. In a short time afterwards, small pustules appeared over the whole head, which, on admission formed a thick yellow dry crust covering the whole scalp, accompanied with itchiness. Her general health was pretty good.

℞ Ioduret sulphur, ℈ij.; Axungiæ, ℥j. Misce.

This ointment was applied twice a-day, and on the 8th June, the scales and pustules were completely removed: there was less itchiness and redness of the skin; tongue whitish; pulse natural; bowels regular. No pain was produced by the application of the ointment.

℞ Ol. Ricini., ℥ss.; c. submur. hyd. gr. ij.

12th June. Has had some vomiting, from eating some indigestible substance; tongue white, pulse 100; skin slightly hot.

℞ Hab. haust. nig., ℥ij.; Cont. ung. abrad. cap.

This patient was dismissed with the head quite healthy in appearance on the 14th June.

Case 6. Ann Brysson, aged 12, a servant, was admitted 31st July, 1841. She was in the hospital about two years ago for the same complaint, and was dismissed cured after the lapse of seven weeks. She continued pretty well until four weeks ago, when an eruption of small pustules made their appearance on the head, which became covered with yellow crusts, from under which a thin matter continued to flow. On the back part of the head, the pustules were distinct, of a yellow colour, and pretty numerous, while on the neck and shoulders they were scanty. A few of the pustules had elevated red bases; the face was much swollen and red; general good health.

App. cataplasm. emoll. capit. et abrad capill.; ℞ Iodur. sulphur, ℥j.; Auxung., ℥ij. Misce. App. ung. capit. mane et vespere.

This patient was completely cured on 17th August following, the skin being then quite natural in appearance.

Observations.—Porrigo, in all its forms, is often a very unmanageable disease, and even when cured is very liable to return. In private practice, and in the hospital, I have tried almost all the external remedies recommended by authors, but have found none so efficacious as the ioduret of sulphur, having repeatedly succeeded in curing the patient permanently with it, after a long trial of other agents. At the same time, it must be remarked, that the evidence derived from the treatment of this disease in an hospital, is liable to this objection, that the future history of the case is generally lost sight of, and there are consequently no means of ascertaining whether or not the disease returns.

The 1st and 4th cases seem to be examples of porrigo scutulata, and both had all the appearances of considerable inveteracy; and I may here remark, that slight cases are rarely sent to this hospital. This species is generally considered the most difficult to cure, and even though the tendency to pustulation be removed, there is little dependence to be placed on this sign, until the skin becomes natural in colour, or the hair is beginning to grow.

The 2d, 3d, 5th, and 6th cases seem to be examples of porrigo favosa; the yellow pustules and incrustation, the fetid discharge, the matting of the hair, and the pediculi, are all characteristic of this species. It is in general a more manageable disease than the porrigo scutulata, and is more under the power of the ordinary agents employed in its cure. At the same time, it not unfrequently proves somewhat intractable. In the treatment of porriginous affections, the following is a more particular account than what is given in the short history of the cases. The head is

first well washed with soap and water, the hair is then cut as short as possible with scissors, a poultice is applied, and continued for a day or two if necessary, to soften the crusts, which being removed as thoroughly as possible, the hair is closely shaved. In general, the ointment is not applied until the head has been shaved; but if pediculi be present, it is employed from the commencement, in order speedily to extinguish these vermin. The proportion of ioduret of sulphur employed has varied from 20 to 40 grains to one ounce of axunge; but, in general, the latter quantity may be safely used from the beginning, unless there be some unusual inflammatory action present; for it seldom excites any particular pain or irritation. As a general rule, the daily application of the ointment will be sufficient; but, in some cases, it is advisable to use it twice a-day, in order to facilitate the cure.

Alteratives, or any particular internal treatment, have rarely been resorted to, when the general health was tolerably good. Laxatives have occasionally been prescribed, and a mild farinaceous or milk diet.

[The same application was also found useful in *lepra and psoriasis*, though not so decidedly as in porrigo. It was used in the proportion of 20 grains to one ounce of axunge, which was applied daily. The strength may be gradually increased to 40 grains to the ounce On this treatment Dr. Davidson remarks:]

The ioduret of sulphur does not seem to have so much power over lepra and psoriasis as over porrigo; although, in my experience, it has succeeded more frequently than any other agent I have tried, with the exception of blistering by cantharides. Lepra alphoides, being a milder disease than lepra vulgaris, is more under its influence, as well as the milder forms of psoriasis, particularly in children; but the species named inveterata would prove somewhat intractable to this as well as to other remedies, as I had occasion to witness in a patient, who, although benefited considerably, was not cured; he was unfortunately carried off by fever before the result was ascertained.

Three other patients affected with lepra and psoriasis have been treated in the Infirmary during last August; two of them have been completely cured, the other is still under treatment, but nearly well; all of them of several years standing, and having employed a variety of medicines before admission. In one of the cases, a female, who had been using large doses of arsenical solution before her admission, which she was obliged to lay aside, the comparative effects of the ioduret of sulphur, and the acetum cantharidis were tested, the first upon the lower extremities, and the second on the arms. From the result of this and other trials, I am satisfied that the latter has more power as a local agent in this disease. The acet. canth., however, was found too weak when prepared according to the formula in the Edinburgh Pharmacopœia; the proportion of cantharides was therefore doubled. It is proper, however, to state, that strong pyroligneous acid was alone used, without the addition of the acetic. Some other formulæ were tried for the purpose of producing ready vesication, such as an ethereal and an alcoholic solution of cantharides, which succeeded moderately well in some cases; but the speedy evaporation of the menstruum seemed to prevent their thorough action. The following preparation, which was applied with a small brush, answered the purpose pretty well, viz. one part of cantharides to three of a mixture of equal parts of castor oil and alcohol, especially when the flies were suspended in the oil, as suggested by Dr. Leslie, apothecary to the Royal Infirmary. The following liniment, however, which is a modification of the Emp. Canth. E. P., is superior to any preparation that I have tried. It is sufficiently soft

during warm weather to be applied with a brush, but requires to be heated when the temperature of the air is low.

℞ Auxung. Ol. Rapii, P. Cantharid. a ʒi.

In order to succeed with either of these vesicating agents, the skin ought to be previously softened, either by means of the warm bath, or sponging with warm water.

London and Edinburgh Monthly Journal of Medical Science, Dec. 1841, *p.* 859—868.

54.—ON AMPUTATION AND THE MODE OF DRESSING THE STUMP.

By Robert Liston, Esq., Surgeon to University College Hospital.

Reported by John Phillips Potter, Esq., late House Surgeon.

[Mr. Potter makes a very useful report of the amputations performed in University College Hospital from 1835 to 1840, amounting in all to 66, 56 of which proved successful, and 11 out of the 66 were for severe compound fractures performed within twenty-four hours after the accident.]

In all cases above mentioned, the flap amputation has been preferred as an operation which, it is believed, is not only more quickly performed, and with much less suffering to the patient, but is attended altogether with better results, both as regards the form of the stump and the rapidity of its cure. The instrument used for the operation is a straight-backed knife, with an edge gently curving towards the point, and of a length varying with the size of the limb to be removed.

With only one exception, (in which the ordinary tourniquet was applied,) the artery of the limb was commanded by the fingers of an assistant, compression being made with moderate firmness over the axillary or brachial arteries in amputations on the upper extremity; and over the upper part of the femoral artery in operations on the lower limb.

It is found that very little blood is lost when this plan is adopted, because well-directed pressure immediately over the course of the principal artery of the limb completely arrests the flow of blood through that vessel and its offsets, whilst it does not in the least interfere with the return of blood by the veins, which, from their thinner parietes, are the first vessels to be compressed when the tourniquet is applied.

After the removal of the limb also, when the principal arteries have been tied, the smaller vessels are quickly and easily secured by slightly varying the pressure of the finger.

Another advantage derived from this mode of arresting the flow of blood through the limb, is that the operation itself is more conveniently performed than when the tourniquet is used. When both flaps have been cut, they are forcibly retracted by an assistant, whilst by a few sweeps of the knife the bone is denuded for some distance, and sawn through considerably above the point at which the first puncture in the skin was made. Now where a tourniquet is used, the retraction of the flaps must be interfered with to a great extent; but where pressure is made by the fingers only, and the rest of the limb is left free, this part of the operation is performed with the greatest ease, and the motion of the saw, when applied close against the divided muscle, is not interfered with.

There have been 22 cases of amputation of the thigh—2 primary and 20 secondary There were 4 deaths.

Nearly all the amputations of the leg were performed close to the tuberosity of the tibia, the stump being left only of sufficient length to rest firmly on the cushion of the wooden leg.

The stump is then completely covered by the dress; and, as it does not

project much, it is not so liable to injury, or to become the seat of obstinate and painful ulceration, as is the case with stumps made at the middle of the leg or even a little higher.

Here again the ordinary flap amputation has been had recourse to; a short anterior flap of skin being first made by dividing the skin over the upper end of the tibia in a semicircular form, and then the knife being made to transfix the leg, (at a variable distance behind the tibia and fibula, according to the size and degree of muscularity of the limb,) in order to form a suitable posterior flap.

The portion of muscle thus taken into the posterior flap gives a firmness and roundness to the stump when healed; and does not, in most cases, increase the amount of suppuration, or retard the union of the parts. The only cases in which this mode of amputation is inconvenient, are those in which the patient is muscular and in robust health; as in primary amputations for severe injuries, for example. Under these circumstances the muscles do not appear to have the same power of retraction as in patients who have long been in a low state of health. They are, therefore, much in the way when the stump is dressed; and by projecting beyond the skin, they prevent its union by the first intention, and occasionally cause some sloughing of the parts.

In two cases where, from the muscularity of the patient, this inconvenience was anticipated, Mr. Liston varied the operation in the following manner.

The anterior flap was made longer than usual, by curving the incision downwards in a semilunar form, and reflecting the skin from the front of the tibia. A posterior flap was then made, also of skin only, and of about the same length as the anterior one. This was reflected from the surface of the gastrocnemius, and the deep structures divided down to the bones, which were separated from the muscles for a short distance before being sawn through.

In these cases the skin flaps healed with unusual rapidity; and the stumps were neat and well covered. In one case, union took place almost entirely by the first intention, and the patient was discharged cured in 25 days after the performance of the operation.

From the accompanying list it would appear that amputation of the leg is an operation which is not so frequently dangerous to life as might be expected. Out of 25 cases, 22 secondary, and 3 primary, 22 were successful, giving a proportion of about 1 fatal case out of every 8.

Neither have these generally been found tedious cases; union by the first intention occurring frequently along half and sometimes nearly three-fourths of the line of meeting of the flaps, and the remaining portions granulating without any great amount of suppuration. The average period of time which these patients remained in the hospital before their stumps were completely healed was from forty to fifty days.

Mode of dressing the stump.—When ligatures have been tied around the principal arteries of the stump, the hæmorrhage from the smaller vessels (which are also tied, in cases where the dressing is proceeded with immediately,) is arrested by covering the recently-divided surfaces with lint, soaked in cold water.

This is removed and re-applied every few minutes at first, and then at longer intervals, until all bleeding has ceased; and in order to insure the actual application of the cold water to the bleeding surface, the coagula are from time to time gently removed. When the patient begins to recover the shock of the operation, one or two of these smaller arteries perhaps spout out afresh. These, however, if necessary, are soon secured, as the flaps are still separate and exposed: the greater number of vessels, on the contrary, become plugged up with fibrine, and retract within their sheaths.

Thus all chance of disturbance of the dressing, by effusion of blood between the flaps, is prevented: and that without having so many sources of irritation present in the stump, as when many vessels are secured by ligature. Where the patient is unusually nervous and susceptible of pain, tepid water, changed more frequently, may be used in a similar manner.

When all oozing of blood has ceased, and when the divided surfaces become glazed over, (which happens generally in from four to seven hours after the operation.) the wet lint and small remaining coagula are removed, and the dressing of the stump proceeded with. The flaps, which are in the most favourable state for union, are now brought accurately together, and retained by several points of interrupted suture. The number of sutures requisite for this purpose varies from two to four; but more than three are seldom used, even in amputation of the thigh. They are removed frequently in twelve or twenty-four hours; but if the flaps are large and heavy, and the threads cause no redness in the neighbouring skin, they may be left for several hours longer, to prevent any dragging on the recent adhesions. When the flaps are thus in apposition, the edges are more closely brought together by means of strips of plaster applied over the face of the stump, at a little distance from each other, so as to allow of the ready escape of discharge, and the abstraction of the sutures when necessary.

Instead of using, for this purpose, the ordinary resinous plaster, which is a dirty application, readily loosened by discharge, and frequently causing irritation and erythema of the skin, a far more convenient material is found in oiled silk or gold-beater's skin, spread with a solution of isinglass, which is allowed to dry. This plaster is sufficiently firm and tough to support the heaviest flaps; it is very adhesive, and being impervious to water, remains for many days without becoming detached; it does not irritate the skin; and, lastly, as it is quite transparent, the line of union may be seen distinctly through it, and additional support may, at any time, be given to a particular part, where it is seen that the lips of the wound are separating. This dressing is found perfectly sufficient for the first three or four days, or even longer in some cases; the stump being kept gently elevated on cushions covered with oiled silk. No bandage is applied at first, but the stump is left uncovered and cool.

In general, very little inflammatory swelling takes place under these circumstances, and what little does occur is not accompanied with pain, because there is nothing to constrict the parts, and prevent their enlargement.

A bandage is seldom applied before the third or fourth day, though occasionally it is made use of earlier, when the stump is large and heavy, and the union by the first intention not as extensive as usual.

At first, however, the roller is not brought over the face of the stump, but is only allowed to approach the end by circular turns. By this means the discharge is not confined, and the strips of plaster are left undisturbed, these being quite sufficient to prevent the lips of the wound from separating.

When suppuration is fairly established in those parts of the stump which have not united by the first intention, the plaster is usually removed, either entirely or in part, and the end of the stump dressed with lint dipped in tepid water, or in a gently-stimulating lotion, and covered with oiled silk. The bandage also is then brought over the end of the stump in such a manner as to support the flaps together, as the plaster hitherto has done. This simple kind of dressing has the advantage of being cool and clean: and as it may be easily removed, without much pain to the patient, it may be renewed daily.

Medico-Chirurgical Review, Jan. 1842, p. 38.

56.—ON PSEUDO STRANGULATION OF HERNIA.

By M. Malgaigne.

[This distinguished surgeon has advanced opinions respecting hernia, which, if correct, would produce important modifications in practice. We cannot, however, but think that the majority of the most eminent of French practitioners delight in wandering from the plain, straightforward, and well-trodden paths of practice, into the regions of useless and unsubstantiated theory. If the principles taught by M. Malgaigne be correct, the common, and we think, judicious practice of operating *early* in strangulated hernia is incorrect. Whereas, most English surgeons are more and more of opinion that in cases of strangulated hernia the great danger is in delaying the operation too long. There are no doubt many patients operated on *too late:* this is especially the case in France. In that country, from some cause or other, the operation is particularly fatal, and this may be one reason which induces M. Malgaigne to suspect that some modification of treatment is called for. He states that in 183 operations there were 114 deaths. He positively denies that fæces habitually accumulate in old herniæ, and substantiates this fact very ingeniously by referring to the well known circumstance that fæces only accumulate in the large intestines, and that this part of the alimentary canal is comparatively but seldom involved in the disease. On this subject he says:]

I must confess that I am astonished at the inadvertance of our theorisers; there is not, there cannot be indurated fæces or even fecal matter at all, save in the large intestines; and hernia of the large intestine occurs, perhaps not in one of twenty cases of intestinal hernia. Thus, in ninety-five of a hundred instances the case as laid down in the books, is physically impossible, as it can only occur in hernia of the large intestine. But even in hernia of the large intestine, I have never on dissection, met with even a single case of accumulation of fecal matter in the hernia, whether the patient died of an affection connected with the hernia or not. I go farther, I have examined every author that I could procure, I have collected every case in which the cause of the symptoms was revealed, whether by operation or dissection, and in the whole mass of cases, I have found but one solitary case in which there was really accumulation in the intestine. But the authors of the theory of obstruction never witnessed even a single case.

[Further on, M. Malgaigne states that three principal elements are involved in strangulations, two of which are primary, and one secondary.]

1. Pure and simple strangulation, which is of rare occurrence, which occurs without inflammation, and produces gangrene in a few hours.

2. Pure and simple inflammation, very common, and which is almost always limited to the serous tissue.

3. Inflammation *en masse* of the viscera contained in the hernia, of the epiploon with its adipose tissue, of the intestine and all its coats. This third element seldom occurs, except consecutively to the two others, either as an effect of the strangulation when it is not forcible enough to produce gangrene, or from irritational perseverence in the taxis in cases of simple peritonitis of the hernia.

As to the obstruction of authors it is a creature of the imagination, and it is the unknown peritonitis of the hernia that has been treated, and very badly treated, under that name.

This peritonitis, however, scarcely mentioned *en passant* by the most

modern authors, is the most frequent accident to which herniæ are liable, and it has probably been overlooked, because hernia has not been sufficiently studied by surgeons in its simple state. This is strange; the results of the inflammation, and even its symptoms have been appreciated, but have not been traced to their true cause, and when these results and symptoms have occurred in their most acute and formidable shape, they have been confounded with those of strangulation.

This inflammation may occur in various degrees, which may be reduced to two principal types, the adhesive, and the suppurative inflammation

The adhesive inflammation is often slight and transitory, is revealed by colic more or less acute, sometimes by symptoms of indigestion, or may go so far as to excite vomiting, hiccup, &c., as real strangulation would do. The hernia is then irreducible, the taxis only aggravates the symptoms; and yet, in this condition of things, confinement to bed, and cold or warm topical applications frequently suffice to effect the reduction. I have had occasoin to study this form of affection in my patients at Bicetre, and I have related several cases of it. I may add that Richter built on such cases the entire structure of his hypothesis of spasmodic strangulations.

Finally, at a more advanced stage the hernia remains irreducible; several days or even several weeks are required to allay the inflammation, and effect the reduction. In one case of epiplocele, I could not return the hernia until the eighth day; in another case of entestinal hernia, the reduction could not be effected till the tenth day. This latter case is particularly remarkable, because as the patient died two months subsequently of another affection, we were enabled by dissection to establish the following points.

1. The hernia was constituted by the sigmoid flexure of the colon, and despite that circumstance, so favourable to obstruction, it had always during the inflammation yielded a clear and tympanitic sound.

2. While the entire hernia still protruded externally, the ring which it traversed, readily admitted of the passage of three fingers conjointly, which excluded the possibility of real strangulation.

When we succeed in reducing these herniæ, there remains scarcely a trace of the adhesive inflammation, save at the most depending part of the sac, where the peritoneum is thickened, hard, rough, and often presents blackish spots. If from any cause the hernia is left protruding in whole or in part, adhesions are formed; and as I have said, that adhesive inflammation is the most frequent accident that attends hernia during life; so after death the frequency with which we encounter adhesion and thickening of the sac completes the demonstration, and proves the frequency of the cause producing them.

We have now to consider how we are to distinguish these cases of inflammation from cases of real strangulation, and what line of practice we should adopt respecting them. The following sums up in a few words my researches on these points.

1. In old intestinal herniæ of large size, which have never been kept up by a truss, or where a truss if ever worn has been long laid aside, no real strangulation can exist, the ring or rings being very much larger than is sufficient to accomodate the volume of the neck of the hernia. This general fact is deduced from all the observations which I have been enabled to make, whether during life or death, and I have not as yet met with a single exceptional case.

2. In pure epiploceles, however bulky they may be, there most frequently exists an adhesive or suppurative inflammation, which is mistaken for strangulation: I say most frequently, for I do not absolutely deny that strangulation may be in this case possible; but I have certainly never seen it. I have not found in the books an authentic examole of such an

occurrence, and the reality of such a strangulation has yet to be proved.

3. Consequently in the two cases here specified, the operation is always irrational; and with the exception of the taxis at the invasion and decline of the inflammation, the treatment should be purely antiphlogistic. *Gazette des Hopitaux.*

Dublin Medical Press, Oct. 13, 1841, p. 227.
(*See also, British and Foreign Medical Review, Jan.* 1842, p. 248.

[In article 87 of No. IV, we published some of these observations, but have thought it well to publish more at length this interesting paper of M. Malgaigne.]

50.—ON THE OPENING OF THE TEMPORAL ARTERY.

By Hugh Carmichael, Esq., A. M., Surgeon to the Coombe Lying-in-Hospital, Dublin.

[Mr. Carmichael has suggested a very simple method, by means of which we may obtain from the temporal artery as much blood as we desire, notwithstanding its strong disposition, like all other arteries, to contract. Several circumstances take place after the division of this vessel which tend to arrest the bleeding. The divided extremities part from each other, and retract within the sheath of the vessel; the divided parts also contract on themselves at the point of section, diminishing thereby the calibre of the vessel at these points, while beyond them its capacity remains unaltered. In consequence of these circumstances, the blood which flows through the divided end of the vessel soon clots; and it clots not only in the vessel itself to the next offsetting branch, but also in the sheath, and thus prevents further bleeding. This would be prevented, if the artery could be partially opened, as we open a vein in the arm, which is the way originally recommended by Dr. Jones: but, as in a small artery like the temporal, this could not be easily accomplished, we must have recourse to some other method of accomplishing the purpose; and Mr. Carmichael recommends the following simple method:]

Let the track of the artery be first ascertained, and this being determined on, and the vessel somewhat steadied by the two first fingers, it is to be completely cut across by the stroke of a scalpel or lancet carried in the transverse direction of its course. It will then immediately commence bleeding; the blood, however, will flow but for a short time, when it gradually stops, in obedience to the law just stated, as I apprehend. If the artery be now slaped with the nail of the first or second finger fillipped from off the thumb with a little force over and upon the section of it next the heart, or in connexion with the main trunk, the jet will be instantly renewed, and with something even of more force than that with which it bled on being first divided, and continue to bleed so for some time. It will then again lessen, and finally again cease, but will instantly be renewed on resorting to the same means; and so, by adopting this plan each time the bleeding stops, slaping the cut extremity of the artery with the nail in the way mentioned, the jet of blood can be again and again brought on, and the bleeding be continued to any amount required, even from branches so small as to defy altogether the possibility of obtaining blood from them under the plan at present adopted, and though practised by the most judicious and dextrous hands.

When a sufficiency has been procured, nothing more is required than to wait the next stop, which, if necessary, may be expedited by a gentle pressure with the thumb on the bleeding section of the artery. A small

dossil of lint then placed over the wound, and secured with a light bandage, is all that is required to prevent further bleeding.

The principle involved in these phenomena is, I think, obvious. The stoppage of the bleeding from time to time is the result of the formation of the clot in the artery and its sheath, which, being newly formed, is loose and easily broken up. The slaping of the cut extremity with the nail affects this. The artery, together with the sheath, is thereby cleansed of the obstruction, and the bleeding is consequently reproduced.

To ensure success, care must be taken that the artery be cut across completely, which, when small, is not so much a matter of course as might be imagined; so readily does it give way before the impress of the lancet. One stroke of the instrument may effect it; I prefer two, except where the vessel is very superficial, as it sometimes is. By the first the integuments are to be divided to the necessary extent; the second is to be carried deep, and with such a latitude as to ensure the division.

Medical Gazette, Jan. 21, 1842, p. 664.

57.—PROLAPSUS OF THE BLADDER, CURED BY OPERATION.

By R. T. Lightfoot, Esq., Newcastle-on-Tyne.

[This patient first observed a small tumour to protrude from the vagina, which gradually increased to the size of an orange, and then to the size of the fist, hanging between the thighs: the greater part was formed by the bladder and anterior paries of the vagina. After remaining in bed twenty-four hours, the tumour could be easily reduced, but owing to the capacity of the vagina it soon prolapsed again in the erect posture, and was then accompanied, on making exertion, with an involuntary dribbling of urine. At the patient's urgent request for relief, Mr. Lightfoot performed the operation for episcorraphie, as recommended by Dr. Fricke, of Hamburg, in the following way:]

The bowels having been previously evacuated, and the hair removed from the parts, the patient was placed on a table, in the same position as for lithotomy, without, however, tying the hands and feet. The thighs being well separated by two assistants, I took hold of the left labium and transfixed it obliquely about the middle with a narrow bistoury three-quarters of an inch from the edge, and in such a manner as to include more of the skin than of the mucous membrane; the knife was then carried rapidly downwards in the same direction to the raphe, half an inch or so in front of the anus: the superior attachment of this flap was next divided, by carrying the incision upwards as high as on a level with the meatus urinarius. The same was repeated on the opposite side; after which the frenulum, and other parts included within the angle formed by the union of the two incisions in front of the anus, were carefully dissected off. The two surfaces thus formed extended from opposite the urethra to within half an inch of the anus, each being about two inches long, and varying in breadth from an inch posteriorly to half an inch anteriorly. The hæmorrhage was so trifling, as merely to require the torsion of one small vessel: the oozing having ceased, six strong hempen sutures were passed through the entire thickness of the denuded surfaces, and tied moderately firm. The first one was applied a few lines in front of the anus, and the last one immediately below the meatus urinarius.

A gum elastic catheter was introduced into the bladder, and the knees were bound together, after which the patient was placed in bed on her left side. The catheter was allowed to remain for the two first days, but owing to the large size of the urethra, part of the urine escaped by the side

of the instrument, and coming in contact with the uniting surface produced a good deal of irritation; it was therefore removed, and during the five or six following days it was merely introduced occasionally. The antiphlogistic regimen was strictly adhered to for four or five days, during which cold water was constantly applied to the parts, and the vagina occasionally washed out and cleared of coagulated blood, by means of cold-water injections. An anodyne was given at bed-time, and repeated for three or four nights, to allay irritation and confine the bowels. Two of the sutures were removed on the fourth day, and the other four on the sixth: at the expiration of which, union by the first intention had taken place throughout the whole extent. The bowels were moved on the eighth day, and an occasional dose of aperient medicine was afterwards given.

In the course of three weeks she was allowed to leave her bed, and walk about a little; and on the 30th of September she was able to attend to her usual housework: she can retain her urine for from five to six hours, and can evacuate it voluntarily, and without the slightest inconvenience. The bond of union is very firm, and appears like an elongated perineum, extending from the anus to within a quarter of an inch of the urethra. The finger can be introduced into the vagina with great ease, the parts being very dilatable.

Nov. 20. Although the patient has been exposed to considerable exercise, there is not the least return of the prolapsus: on desiring her to strain violently, a portion of the corrugated anterior paries of the vagina became visible, but has not the slightest tendency to protrude externally, although the passage into the vagina is enlarged from the longitudinal contraction of the cicatrix.

In performing this operation, I think it would be better not to attempt the union of the posterior part of the labia, but to leave an opening into the vagina between the bond of union and the frenulum sufficiently large to allow of the discharge of the vaginal mucous and menstrual secretion. By adopting this method the operation would be much facilitated; the most troublesome part of it, and, at the same time, the most painful to the patient, being the dissection required for the removal of the frenulum and the parts in front of the anus. During the treatment, likewise, coagulated blood, and the secretions from the vagina and wounds, could be more easily removed; and in case of considerable inflammation occurring after the operation, cold water could be more readily and continuously applied by means of a syringe. By this modification of the operation, the union of the labia would form a kind of bridge, with two communications into the vagina. The extent of this required, would depend very much upon the case; thus, if there was considerable prolapsus of the bladder, and anterior paries of the vagina, it would be necessary to carry the union as far as the meatus urinarius, and the posterior opening might be left large enough to admit the finger. If, on the other hand, the tumour was principally formed by the uterus and posterior wall of the vagina, then it would be advisable to leave the posterior opening just sufficiently large to admit an ordinary-sized gum-elastic catheter, and the outer one must be left of considerable extent: care, however, must be taken to make the bond of union of sufficient extent, so as to allow for the subsequent contraction of the cicatrix, otherwise one or other of the openings might become so large as to allow the inverted mucous membrane gradually to be insinuated through it, and any unusual effort would expose the patient to a return of the complaint.

London Lancet. Dec. 4, 1841, p. 392.

88.—MODE OF PASSING THE LIGATURE FOR POPLITEAL ANEURISM.

By Bransby Cooper, Esq., F.R.S., Surgeon to Guy's Hospital.

In a case in which Mr. Cooper tied the femoral artery, instead of the usual mode, when the artery is exposed, of drawing the sapheneus nerve outwards, and then passing the aneurismal needle, armed with the ligature, between the artery and vein, Mr. Cooper adopted the following plan:—immediately on opening the sheath, he passed an aneurismal needle, unarmed, below the whole of its contents, from without to within, and to such a distance that its curved extremity appeared close to, and on a level with the upper and inner edge of the artery. There were two branches of nerves in this case, running along the upper surface of the artery: having gently detached these, by means of the blunt edge of a small probe, Mr. Cooper "tilted" them over the exposed end of the aneurismal needle; on which, therefore, remained lying only the artery and vein. Between these, Mr. Cooper now insinuated the end of the probe; and through the space thus made, passed the needle, having removed it cautiously from its former position. In this situation, the needle was armed by an assistant, and the ligature then secured in the usual way. This method appeared to place the separation of the artery from the nerves and the vein more under the command of the operator, while it caused the least possible disturbance to its cellular attachments.

"I may remark," says Mr. Cooper, "that the position in which the thigh is placed before the operation is of great importance, in reference to the subsequent passage of the ligature. By the full rotation of the thigh outwards, and by the bending of the leg, all the muscles are relaxed; and by a pillow being placed under the leg, the patient is freed from the apprehension of moving the limb, and thus interfering with the operation. In regard to the direction of the incision necessary to expose the artery, there is no doubt, that as a general rule, the inner edge of the sartorius muscle is the best guide; but frequently, in cases where œdema extending over the thigh, this edge cannot be distinguished, a line may be taken from the centre of Poupart's ligament to the inner side of the patella, and the point at which it is intersected by another line, taken from the anterior superior spinous process of the ilium to the tubercle of the inner condyle of the femur, marks the spot at which the ligature should be applied. The artery in the case in question was, as before narrated, seen pulsating on its exposure; but I may state—though to many the remark may be superfluous—that this is far from being uniformly the case. I have seen the carotid lie so perfectly quiescent after exposure, that a surgeon has thought, from the total absence of pulsation, that it could not be an artery. The whitish-coloured vessel which is exposed in these operations is only discovered to pulsate by being pressed between the finger and thumb. From the details in case No. 2, I think that the advantage of passing the needle before it is armed with the ligature is sufficiently shown. It is necessary to take great care that the point of the needle be not too sharp; or there will be considerable danger of wounding the vein, whilst the needle is being passed between it and the artery. As to the tightness with which the ligature should be drawn, the surgeon should exercise his discretion, and is best taught by experience. It is frequently stated, that the inner and middle coats of the artery should be felt by the operator to give way under the ligature; but, in a very great majority of cases, I have not been able to detect any thing of the sort. In old persons, where the coats are more likely to be indurated or ossified, a less degree of force will of course be proper.

Medico-Chirurgical Review, Jan., 1842, p. 262.

[The same able surgeon makes the following observations on *Concussion of the Brain*, taken from the same number of Guy's Hospital Reports:]

When one or both pupils remain contracted, I am induced, from my experience, to consider this as an unfavourable symptom, characterising lesion of the brain. In those cases in which I have observed contraction of one pupil, and have had an opportunity of making a post-mortem examination, I have invariably found injury of the brain on the side opposite to that of the contracted pupil. The same violence which produces concussion, may cause fracture of the base of the skull: and although the constitutional treatment employed may subdue the symptoms of concussion, during the progress of reparation, effusion may take place, and evidences of compression supervene. Such a complicated injury, however, is generally denoted by bleeding from the ear, at the time of the accident; and I have known a discharge of serum from the external meatus continue for many days after the accident; and yet these cases ultimately did well. Even when this discharge is profuse, it is to be regarded as a favourable symptom, and therefore should not be checked by astringents. The case above alluded to was treated successfully, by general and local bleeding and calomel.

Ibid. p. 266.

38.—TWO CASES OF EXCISION OF THE CALLUS IN BADLY UNITED FRACTURES.

By Professor Portal.

A man 32 years of age, fell from a cart and fractured his tibia and fibula nearly in their middle. Inflammation followed, by purulent infiltration, attacked the limb, and as the patient was very restless, after the cure was effected, it was found that the fragments of the bone had united in an irregular angular manner. Professor Portal first tried to break the callus across, in order to reset the limb, but not succeeding in this he cut down on the irregular angular projection by a vertical incision, and uncovering the bones, passed a chain saw round them and removed about an inch of the bone. The wound united by the first intention; the limb was kept carefully extended, and in forty-eight days the patient was dismissed cured. The limb was shortened a very little.

The other case was that of a woman who had received a compound fracture of the upper third of the thigh bone. On account of the violence of the inflammation, the limb was at first semiflexed, and when this had abated it was placed in the extended posture. After the period of twenty-eight days the bandage was removed, and it was found that the union had taken place irregularly, the broken ends forming an angle at their union. As it was found impossible to rupture the callus which had been thrown out, the ends of the bone were cut down on a chain saw passed first around the upper fragment, and about an inch and a-half removed, and then around the lower, and half an inch of it cut off. The limb was then maintained in a state of permanent extension. The wound suppurated, and became covered with an eschar, but no other unfavourable symptoms followed; and fifty-five days after the operation she was dismissed cured, with the limb shortened to the extent of two finger-breadths, but perfectly serviceable.

Edinburgh Medical and Surgical Journal, Jan. 1842, p. 258.

69.—ON LIME MOXA.

By Dr. Osborne, Dublin.

Dr. Orsborne has availed himself of the high temperature produced by lime, in the act of slaking, for the purpose of a moxa. Some quick lime in powder, to the depth of about half an inch, is placed on the skin inside a *porte moxa*, or a strip of card bent together and tied so as to form a circle. Some water is dropped on and mixed with it. In about two minutes the mixture swells, and becomes dry, and at the same time a high degree of heat is produced, which, according to some experiments, may amount to 500° Far. This moxa, Dr. Orsborne considers to be superior to all others; first, from the intensity of the heat, which, by using a larger bulk of lime, may equal the potential cautery; and secondly, from its convenience, not requiring the assistance of any heated substance, and being unaccompanied by the emission of sparks or smoke, which create terror in the mind of a patient. When the quantity of lime applied is smaller than above mentioned, or not kept on long, the result is an appearance resembling that produced by acetic acid, and a thick crust is formed, which separates according as new skin is perfected underneath. When, however, the quantity is as large, or larger, and kept on as long as the heat continues, then a complete destruction of the skin ensues, and thus issues may be made of greater depth, and in a much shorter time than by the usual escharotics.

In order to ascertain the depth to which this moxa acts, he applies it on the surface of an egg, and then observes the thickness of coagulated albumen formed underneath. This shows the extent to which the serum may be coagulated in the vessels of the part, and which is subsequently separated by ulceration as a foreign body; but the beneficial action of a moxa does not stop here, its superiority as an escharotic or counter-irritant, according to Dr. Osborne's view, consists in this, that the heat produces a contraction and change in the action of the vessels of parts over which it is applied, with great excitement of the absorbents, enabling them to return to a state of health after the failure of all other means, as may be seen from the cases related in Larrey's work on this subject, and as is well known and acted on by veterinary practitioners. In one case, at Mercer's Hospital, it was productive of a very decided change. A female laboured under the symptoms of ulceration of the upper part of the rectum and sigmoid flexure, for above a year, and had constantly most severe pain in those parts on passing her motions, which were accompanied by discharges of purulent and sanious matter. On being examined, the rectum and lower part of the colon were free from contractions, and the fecal masses which occasionally passed, although productive of great suffering, yet showed that the passage was not considerably narrowed; a lime moxa, which extended to about the size of a crown, was applied over the sigmoid flexure, and was immediately followed by a diminution of pain and an almost complete cessation of the discharge; and before the ulcer produced by the moxa had filled up by granulations, all the symptoms of the internal ulceration had entirely disappeared. In a case of commencing softening of tubercles, and in another apparently of purulent infiltration after pneumonia, its effect in putting a stop to the ulcerative process was most decided.

In a case of hip-joint disease, in which there was great pain and consequent loss of sleep, the patient slept well on the following night, and in a few days had gained much power over the limb. And in another case of the same disease, which had proceeded to destruction of the joint, and extensive enlargement of the parts around it, a copious discharge of the moxa was followed in a fortnight by a complete subsidence of the enlarge-

kept, and a corner of the ulcerated surface is now kept open as an issue, the remainder being allowed to heal under a water dressing. It is to be observed, that the size of the ulcer formed, is always much larger than that of the lime applied, in every case having at least twice its diameter.

When the lime is prepared from calcareous spar, the heat produced on the addition of the water is sudden and intense, and the pain is proportionably urgent. For ordinary purposes, however, well selected pieces of lime, from a lime-kiln, answer well if *fresh*, but not otherwise.

Dublin Journal of Medical Science, Jan. 1842, *p.* 469.

61.—ON LIGATURE OF THE CAROTIDS.

By James Miller, Esq., F.R.C.S.E., Lecturer on Surgery, and one of the Surgeons to the Royal Infirmary of Edinburgh.

[It seems to be a general opinion that the carotids and vertebrals may all be tied with safety, provided that sufficient time intervene between each operation, so as to allow of the formation of the anastomising circulation. But "may both carotids be tied at once without immediate danger to the brain, and with the prospect of a favourable result?" The French Academy have answered this question in the affirmative, and have, moreover, stated that the danger is not with the brain but the lungs. M. Robert states that the vertebral arteries are sufficient for the cerebral circulation, and that ligature of both carotids produces no disturbance either primary or consecutive of the nervous system of the senses. Dr. John Reid also proves that "in asphyxia, cessation of the sensorial function does not arise from diminution of the arterial supply of the brain, but from the circulating blood being of a venous character, and so failing to afford to that organ the excitation requisite for the performance of its functions" M. Roberts concludes from his experiments that one great object in treating these cases is in venesection, provided the patient is sufficiently strong. This practice diminishes, in a great measure, the risk of extensive lesion of the lungs. In horses, the ligature of the carotids caused death in a few hours, owing probably to the vertebral arteries diminishing remarkably in size in these animals as they enter the cranium, being there no larger than those of the dog. The result is a congestion of the lungs, which, unless relieved by bleeding, produces fatal apoplexy of these organs, but the pain remains undisturbed.]

Bringing the results of these experiments to bear upon the human subject, we infer:—1. In future the surgeon need not hesitate to secure both common carotids by ligature simultaneously, should circumstances imperatively demand such a severe proceeding. For it is highly improbable that the brain shall suffer by diminution of its arterial supply, seeing that in the horse the vertebrals, even though remarkably contracted in size, are found sufficient for this; and it being probable that the comparatively larger size of the human brain, with its consequent greater capacity for arterial blood, will be fully compensated by the comparatively larger size and full anastomotic circulation of the vertebral arteries.

2. The operation must be performed with much delicacy and skill, and with an especial regard to the safety and integrity of the accompanying nerves and vein. For, in the experiments of M. Roberts, it was only when the former were cut or tied, that "nervous symptoms," such as difficulty of swallowing, change of voice, derangement of the senses, abnormal movements, and other obvious disturbances of the cerebro-spinal functions, were ever found to supervene. And, as already stated, there seems

every reason to believe that arrestment or interference with the return in the jugulars is fraught with infinitely greater danger to the encephalon, by inducing venous congestion there, than is the sudden limitation of its arterial influx to the vertebral supply. In tying other arteries, experience has made us well aware how dangerous it is in any way to injure the venous coats by the needle or ligature; inflammation of these coats, with obstruction of the canal at the point of injury, (the mildest form of phlebitis,) is one of the gravest accidents that follow the operation; and it is very plain that such an accident to the internal jugular may be peculiarly disastrous.

3. After ligature of the common carotid, and more especially after deligation of both arteries—supposing the operation or operations to have been performed with due regard to the foregoing precautions—the attention of the surgeon ought to be wakefully directed to the organs of respiration; in as much as the experiments of M. Robert declare theirs to be the texture in danger, not the cerebral. And if, on investigation, it be found that in the autopsies of unfavourable cases of obstruction of the common carotid in the human subject, recent lesions, more or less important, of the lungs have been disclosed,—the precautionary injunction will become all the more imperative.

It may, perhaps, be reasoned thus—that pulmonary lesion is found to result from injury, by wound or ligature, of the par vagum: that the carotid ligature may be supposed, in the first instance, to affect the brain, and through the influence of the eighth nerve, involve the lungs in disease secondarily; and that thus, after all, the brain is the organ in danger. But how is this nerve alone singled out for morbid action, the rest of the system remaining undisturbed? It is plainly stated by M. Roberts that, in none of his experiments, where the arterial tissue was alone interfered with, did there occur any indication, however slight, of cerebral disturbance. We are still forced, therefore, to the belief that the brain is not affected by mere diminution of its arterial supply; and that the change of structure in the lungs, resulting from such an operation, is not effected through a perverted influence from the eighth pair of nerves.

4. The form of danger to be apprehended is congestion of the lungs: in other words, an unwonted determination of blood to that organ, caused by a sudden and serious disturbance of the due and healthful balance in the arterial circulation, and resulting either in apoplexy of the lung, if the congestion have occurred rapidly and to a great extent; or in an inflammatory action more or less destructive to the pulmonary texture.

5. To obviate this danger, it will be prudent, more especially in plethoric subjects, to draw blood—the amount varying according to the circumstances of the case—shortly before the performance of the operation, in order to prevent, or at all events diminish this probable interruption of the arterial balance. And in the after treatment of the case, further bleeding will probably be necessary, either to avert evil consequences from the determination of the lungs, which may have taken place notwithstanding all precaution, or to limit or abate the morbid action which may have not only threatened but actually occurred. It will not be sufficient to moderate the heart's action, and the arterial circulation, by antimonials, sedatives, &c.; it is essential that the actual amount of the circulating fluid be diminished.

6. This prophylactic principle need not be confined to deligations of the carotid alone. In operations on other vessels of the first class—subclavians, iliacs, femorals—important internal organs may be saved, and the number of successful issues materially increased, by a precautionary bleeding to a moderate extent, before the operation, and by a more watchful and better directed surveillance than heretofore, during the after treatment.

7. Without coming under the bann of uncharitableness, we may be allowed to suspect that in most, if not all of those cases in which important cerebral affection has supervened, the mere obstruction of the arterial current was not to blame; but that the nerves or vein accompanying the vessel had been more or less injured by the knife, the ligature, or otherwise, during the dissection; or after the operation, casualties may have occurred in or around the wound, sufficient to account for "nervous affections" of consecutive formation; or cerebral disease has either been induced or aggravated by accidents wholly irrelevant of either the operation or the disease on account of which it was undertaken.

London and Edin. Monthly Journal of Medical Science, Jan. 1842, *p.* 3.

62.—SULPHATE OF IRON AS AN APPLICATION IN ERYSIPELAS.

By M. Velpeau.

M. Velpeau has employed, he says, with advantage, in the treatment of erysipelas, the sulphate of iron as an application to the inflamed part. He has used it both in solution and in ointment. The former is prepared by dissolving an ounce of the salt in a pint of water; the latter by rubbing up a drachm of the salt in an ounce of lard M. V. says that the former exerts most control over the inflammation, generally subduing it in two days.—*La Lancette Francaise, Nov.* 7, 1840.

American Journal of Medical Science, Oct. 1841, *p.* 481.

63.—TREATMENT OF STRANGULATED HERNIA BY COPIOUS INJECTIONS.

By A. S. Lawrence, Esq., Clifton.

[In article 40 of our First Number will be found some interesting remarks by Mr. Maunder, on the cure of strangulated hernia, by the introduction of a long tube up the rectum so as to give vent to flatus. This was previously practised by Dr. O'Beirne. We certainly must agree with Mr. A. S. Lawrence that to introduce the tube of a stomach-pump twenty-six inches up the rectum and colon, is a rather dangerous operation, as the rectum itself is only about eight or ten inches in length; and as the distension of the bowels by tepid water is a much safer and easier operation, we subjoin a case in which it was followed by remarkable relief and reduction of the bowel. Mr. Lawrence found his patient unable to reduce the bowel, and suffering from all the usual symptoms in consequence. He says:]

I tried the taxis in the *most gentle* manner, without success. Half-past ten, a.m., bled her until fainting was produced, and again tried the taxis, unsuccessfully. The sickness increased, with cold perspiration. I again attempted to reduce the hernia, but was unable. Twelve o'clock, I applied a bladder partly filled with cold water to the groin, and very gradually injected *four pints* of tepid water-gruel, and returned home for my instrument. At one, p.m., the sickness was relieved; abdomen less tender; again used the taxis, by which the swelling was lessened; I then injected one pint more of fluid, which did not pass so freely as the former quantity, which was still retained, and, in consequence, the piston of the syringe requiring greater propelling force. Two, p.m., says that she is considerably better, and by a repitition of the taxis the swelling became nearly reduced; tenderness of the abdomen but slight. I changed the water in the bladder for colder, and applied it as before. Three, p.m., attempted

the taxis again, when the bowel returned easily. Twenty minutes after the reduction she had a large motion, followed by one of very feculent matter and scybalæ. Six, p.m., quite free from pain and sickness, and feels disposed to sleep. Castor-oil ℥j. immediately. Nine, p.m., oil had produced a copious and offensive motion.

[The patient did well.]

Lancet, Jan. 29, 1842, *p.* 608

64.—AMAUROSIS FROM PRESSURE ON THE RETINA.

By Edward Octavius Hocken, M.D., M.R.C.S.L., &c.

[Amongst the various causes of pressure upon the retina, hydrophthalmia is not uncommon; and on this subject Dr. Hocken has written a good paper, which, amongst other things, points out the efficacy of turpentine in its treatment. "General hydrophthalmia, is an affection in which the vitreous and aqueous humours are both morbidly increased. The pressure from behind is counterbalanced by the force exerted anteriorly, and hence the iris retains its normal relative situation from the *equality of pressure* exerted on all sides." In this rare affection there will generally be found great imperfection of vision, a tendency to central thinning and a central protrusion of the cornea, occasioning marked *visus obliquus*. The ordinary remedies so frequently fail in this disease, that we are generally obliged to have recourse to paracentesis oculi, with a repetition of the operation when the fluid accumulates sufficiently. Beer even recommends in some cases, that the cornea be divided and the lens extracted, as well as the chief part of the vitreous humour. Dr. Hocken has seen *turpentine* of excellent use in some of these cases. Respecting this treatment, he says:]

I have too often witnessed its decided powers in very chronic changes to doubt its efficacy. Now, although I have, as yet, had no opportunity of fairly testing its effects in hydrophthalmia, yet, from analogy, I infer that it would be most likely to stop the progress of the affection, or induce reparative processes; at all events, it merits a careful trial. How important would it be to find a method of treatment capable of even suspending the symptoms and preventing their advance! Turpentine, in small and regular doses, holds out the best chance of accomplishing these ends, if not of procuring a perfect cure.

The dose should be small, and continued regularly,—half a drachm to a drachm, two or three times a-day, in almond emulsion, containing a small quantity of the sesqui-carbonate of soda in solution, and some agreeable syrup to cover its unpleasant taste. Mr. Carmichael's observations on its employment in iritis, are judicious: he gives an excellent formula for its administration. I have seen this plan of treatment especially useful in the more chronic forms of choroiditis; the natural appearance of the globes and healthy vision being restored by its continued and judicious treatment. It succeeded in a patient in whom one eye was affected; and the symptoms suspended, with the occurrence of an exactly similar disease in the same tissues of the opposite organ, again yielding to the careful administration of turpentine.

London and Edinburgh Monthly Journal of Medical Science, March, 1842, *p.* 235

65.—TREATMENT OF VARIX.

By M. Velpeau, &c.

[The treatment of varicose veins is either radical or palliative. It is not necessary to dwell on the latter. The radical cure has been attempted by a great variety of methods, by acupuncture, cauterization, compression, excision, incision, section, resection, and ligature. All these methods now seem to be nearly abandoned, with the exception of acupuncture, ligature, and local pressure.

In an interesting lecture on the subject, M. Velpeau gives a good epitome of the practice of some of our continental neighbours.]

Acupuncture.—In the year 1830, I published some remarks, intended to show that an artery might be obliterated by leaving a foreign body in it for a certain length of time. This fact was soon applied to the veins. Two methods have been proposed, that of M. Fricke and that of M. Davat.

Method of M. Fricke.—The Hambourg Professor, having fixed the vein under the skin, passed through it a needle, armed with a strong thread. This was done at intervals of a few inches, in every vein that it was thought necessary to obliterate. The thread was moved daily in the vessel to excite inflammation, and was removed on the third or fourth day. M. Fricke pretends that this operation never fails; and in November, 1835, he wrote to inform me that it had never, in his hands, given rise to any dangerous symptoms. I have been less fortunate. I operated on twelve patients; inflammation of the vein took place in all; in eight cases the inflammation was merely local; in three the lower extremity was seized with phlegmonous inflammation and extensive suppuration, which required numerous incisions, the patients barely escaping with their lives; the twelfth patient died of phlebitis. One of the three patients, who had so narrow an escape, suffered a relapse eighteen months afterwards. The results of these experiments were, as you may imagine, sufficient to prevent me from continuing to employ M. Fricke's operation.

M. Davat's Method.—This method consists in the passing a needle through the skin underneath the vein; the vessel is then raised up by the needle, and a second one is passed downwards through the vein, and brought up again through the vessel, having passed round the transverse needle which it crosses; the needles are supported by some thread twisted round them in a figure of 8.

Local Pressure.—Delpech's Method.—An incision, about an inch in length, is made over the vein; the latter is raised up, and a small piece of German tinder placed under it; the wound is now closed, compresses are applied above, and pressure is thus exercised over the point of the vein which we wish to obliterate. The wound and the vein soon inflame: but the objections to this method are too numerous to require our dwelling on it.

M. Sanson's Method.—This consists in applying a forceps, the blades of which are brought together by screws, to the vein. The instrument is removed every twenty-four hours. M. Sanson's method is certainly free from danger, but it appears to me to be an ineffectual one

Ligature.—M. Valpeau's Method.—Gentlemen, the little confidence which I was disposed to place in the operations just mentioned, induced me to attempt some other method. In 1830 I first tried my operation on animals, and in 1835 I first employed it on the living subject. Since then I have repeated the same operation so frequently in public and private practice, that I am unable to tell you how often it has been performed. A strong, sharp pin, with a large head and a waxed thread, are the only

instruments that I use. The position of the patient is a matter of some importance. He must be placed in such a posture as will render the veins tumid and prominent. The trunk of the vein is now raised up with the fingers' end, the pin is passed below the ends of the nails and underneath the vein; it will be necessary to protect the finger with a thimble or a roll of linen, for the tissues under the varicose vein are often very hard and resi-tant. This simple process must be repeated with regard to every dilated vein; eight, ten, twelve, or fifteen pins may be required from the foot up to the knee, but, generally speaking, three or four are sufficient. When the veins are free and moveable under the skin, it is easy to pass the pins under them; but when they are applied closely to the bones, this is sometimes impossible; you must then pass a strong pin perpendicularly downwards, and then direct it obliquely under the trunk of the vein. The pins, being all placed, are fixed with threads; at first I applied the ligatures as we do for hare-lip, but this did not exercise sufficient pressure. I now twist the thread circularly round the pin, and draw it tight. The pins and ligatures are not removed before the sixth or twelfth day, when the tissues embraced between them have been destroyed. But even if the eschar be not detached at this period, I remove them, because I feel confident that the vein is obliterated.

The introduction of the pin gives very little pain, but the constriction exercised by the ligature is excessively painful. Hence, you should commence with the highest pin, in order to cut off the nervous communication as much as possible. The effects of the operation are simple. The tissues embraced by the ligatures mortify and are separated, leaving a sore, which soon heals up. A hard chord forms above and below; this is the vein in process of obliteration. No dressing is required after this operation. You have merely to cut short the ends of the pins, to prevent them from pricking the patient. Unless the inflammation be severe, the patient may go about; if it be excessive, then you confine him to bed, and have recourse to the antiphlogistic treatment. As soon as the eschars come away, the small sores which remain are treated as common abscesses or burns.

M. Reynaud's Method.—Being desirous of avoiding the pain occasioned by ligatures, M. Reynaud passes a thread under the vein, and a small compress supported by a strip of sticking-plaster over it; he then tightens the ligature and increases the pressure every day. This method may succeed, but it is so difficult to obtain complete obliteration of the veins, that I fear it would frequently be followed by relapse.

Gentlemen, the operation which I have described to you, is extremely simple and easy of execution; the whole process consists in passing a pin and winding a bit of thread round it. It fulfils the object of obliterating the vein as well as any other method, but is free from the dangers which attend them. You may ask, however, if it always succeeds in establishing a radical cure. Our answer must be, No. The disease will not always yield. When one dilated vein is obliterated, three or four others soon appear, the superficial branches anastomose with the deep ones, and nothing is more difficult than to obstruct completely the circulation of a varicose limb. Hence the efficacy of every process or method that may be proposed for the radical cure of varix is extremely doubtful. In the observations which I have addressed to you I have considered one point only—viz., the necessity of obliterating the veins as a means of curing varix; this being admitted, we have to seek for the best means, and I think the one which I have proposed to you affords the greatest advantages. Of more than one hundred patients on whom I have operated by this method, not one has presented any dangerous symptoms; some slight external phlebitis and the formation of some small abscesses were

the only consequences of any moment that ensued. Still, I always dreaded that such constant success in this matter, would be interrupted by an unfavourable result, and my apprehensions have been unfortunately realised. The only fatal case occurred recently.

Provincial Medical and Surgical Journal, March 19, 1842, p. 484.

66.—TREATMENT OF VARICOCELE.

By M. Velpeau, Paris.

[This disease, which consists in a dilatation of the veins of the chord, is treated in various ways by different surgeons, and very much according to the peculiar treatment of varix, which each surgeon adopts. Cumano employed the ligature and extirpation at the same time: Mr. Warren excised or tied the varicose veins of the scrotum: M. Moulinie combined excision with ligature: Delpech divided the scrotum, exposed the chord, and tied or incised the veins; in some cases he passed a small bit of sponge under the dilated veins and fixed it with strips of sticking plaster—it is said he cured six out of seven patients in this way. We should, however, beg leave to doubt the truth of this assertion. Bell has tied the spermatic arteries for this affection. Within the last ten years several new methods of treating this disease have been tried, all based on the results obtained from M. Velpeau's experiments on the acupuncture of vessels. This eminent surgeon adopts the following method.]

My process, says he, consists in passing a needle underneath the vein, and twisting a ligature round its two ends, so as to compress the vessel in a circular manner. The patient is placed on his back, the scrotum shaved, and the vas deferens held aside. I then seize the scrotum from behind, and with the thumb and index finger of the other hand I bring the mass of varicose veins forwards towards the integuments, and fix them in a fold of skin; an assistant holds one end of this fold, while I support the other. I then pass a needle under the veins, in the way described for varix, and bring a ligature round it; a second needle is passed within about an inch of the first one. You must avoid inserting the needles too low or too high, and separating them too far from each other. If the lower needle, for example, be placed too low down, you may wound the tunica vaginalis; if the superior needle be inserted too high up, you will have difficulty in separating the veins of the chord; finally, if the needles are placed too close to each other, the two wounds may unite and form one. The needles being placed, the ligatures are wound circularly round them, in the same way as for varix of the lower extremities; I need not, therefore, detain you with a description of details which you have heard so lately. When the eschars are detached, the needles are withdrawn from the tenth to the twentieth day. Unless the inflammation which supervenes be severe, the patients are not confined, and a cure takes place in about a month. I I have never seen phlebitis occur after this operation; in two cases, however, where the inferior needle was inserted too low down, inflammation of the tunica vaginalis came on. The whole of my patients, then, were cured in a short time; and, of those whom I have since met, not one has suffered a relapse. This, perhaps, may be accounted for by the fact that in varicocele the chances of radical cure are much greater than in cases of varix of the lower extremities, because the free anastomosis between the veins is absent.

Provincial Medical and Surgical Journal, March 26, 1842, p. 514.

67.—ON TRACHEOTOMY.

By M. MASLHIEURAT-LEGRAND.

[An interesting report on this subject has been read to the Academy of Medicine, Paris, by M. Berard, in which some very excellent cases, shewing the efficacy of this operation, are introduced.

M. Maslhieurat not being provided with a canula, drew aside each lip of the division of the cricoid cartilage with a bent pin; a string attached to the head of each pin, and tied behind the neck, kept the wound open. The cricoid cartilage and three rings of the trachea were divided in the operation with a probe-pointed bistoury, introduced through a wound previously made in the thyroid membrane. In one case, death seemed to have taken place, and yet resuscitation gradually took place in about half an hour, and the infant expelled during a violent fit of coughing, a false membrane, tubular and bifurcated at one extremity. There is no doubt, that in cases of croup, where death is threatened by a gradually augmenting narrowness of the glottis, and by a consequent mechanical obstruction to the passage of air into the chest, tracheotomy ought to be more frequently practised; but where the disease has extended to the bronchia and lungs, the operation will not be advisable.

A very extraordinary cure is related by M. Trousseau, in the *Journal des Connoissances Medico-Chirurgicales*, for October, 1840, where the patient had breathed his last a few moments previous to the commencement of the operation. The operation in fact seemed to be performed upon the dead subject, and artificial respiration was kept up by means of alternate compressions of the thorax. The heart commenced beating in about a quarter of an hour, and in 57 minutes a a deep inspiration took place. The patient ultimately recovered.]

M. Maslhieurat, in his first operation, carefully tied some small arteries and veins, which yielded blood profusely, apprehending, he says, the entrance of blood into the trachea. In so doing, he conformed to the precepts laid down by almost every author who has written on the subject, it being a nearly general precept to open the trachea when the wound is bloodless. Daily experience tends, however, to show that this precept is unnecessary, and furthermore, impossible to be observed. The entrance of blood into the trachea is a circumstance which need not be feared. Any one that has witnessed the performance of tracheotomy, must have been struck with the violence with which every substance contained in the trachea and bronchia are expelled through the wound at each expiration, and with what facility the air, on the contrary, enters the lungs, when the lips of the wound are kept asunder. Excepting, therefore, the case where an artery capable of furnishing abundant hæmorrhage, is wounded (and no artery sufficiently large to do so exists in front of the trachea), why should the operator stop to tie an artery, and more especially a vein? particularly when we know that the surest mode of arresting venous hæmorrhage is to open the trachea largely, so as to render respiration free. Within these few months I have performed tracheotomy six times—on four children, and on two adults. In each case the proceeding was prompt and easy. A few incisions laid the trachea bare, and without tying any vessel, without waiting for the cessation of hæmorrhage, the trachea was punctured at the inferior angle of the wound with a sharp-pointed bistoury, and the rings of the trachea and the cricoid cartilage immediately divided, by directing the same instrument upwards. We preferred incising the trachea with the same instrument with which it was punctured, as we regard the

danger of wounding the posterior wall of the trachea as merely imaginary; and there is often the greatest difficulty in introducing a blunt-pointed bistoury into the small puncture made in the trachea by a sharp-pointed instrument.

M. Maslhieurat having been compelled by necessity to keep the lips of the wound open by means of two bent pins, raises the question whether an instrument consisting of two hooks, kept on the stretch by means of a spring, would not be preferable to a canula, and has presented to the Academy an instrument constructed on this principle. The suggested advantages of the instrument are—1st. That it is less likely to become obstructed than the canula; the accumulation of mucous being so rapid that the canula has often to be changed several times daily. 2dly. The wound being kept open by means of a simple hook, which occupies much less space than the canula, a large quantity of air (the extent of the wound being equal) is admitted. 3dly. The proposed instrument can in no way impede the progress of the air into the larynx, while the canula allows little or no air to find access to that organ, a circumstance which, according to M. Maslhieurat, impedes the restoration of the mucous membrane of the larynx to its natural condition, and favours the persistance of aphonia, which is sometimes so obstinate. 4thly. There is, perhaps, somewhat less risk of pneumonia from employing the proposed instrument, which scarcely comes in contact with the mucous membrane of the trachea.

The three first of these alleged advantages seem of little importance. If the canula becomes obstructed, it is easily cleaned and replaced. If the calibre of the canula is proportional to the aperture of the glottis, respiration is perfectly free; and if an opening be made on its convexity, the air finds free access to the larynx. As to the greater irritation caused by the greater bulk and length of the canula—there is unquestionably more danger to be apprehended in theory from the canula than from the proposed instrument; but daily experience shows the harmlessness of the former instrument.

[In this report, by M. Berard, we should be afraid to agree with him in saying there is seldom danger of hæmorrhage in performing the operation; because, cases have been related where the hæmorrhage was fatal, and therefore, it is always necessary, if hæmorrhage should result during the operation, to tie the vessel before proceeding further.]

Dublin Medical Press, Dec. 29, 1841, *p.* 403.

48.—M. COLOMBOT'S METHOD OF REDUCING DISLOCATIONS OF ORBICULAR JOINTS.

By Professor Williams, Dublin.

M. Colombot's method is thus described:—"In place of practising graduated extension by any mechanical force, all the muscles surrounding the joint are placed in an intermediate state between flexion and extension, so that they may be in the greatest possible state of relaxation; they are then to be taken by surprise, by suddenly rotating the limb, a manœuvre which infallibly replaces the head of the displaced bone."

When the hip joint is implicated, the reduction is to be effected as follows:—"The patient is placed erect, the weight of the body being supported on the sound limb; the trunk is then flexed, so that the thorax rests on a bed or table corresponding to the height of the pelvis, and the patient grasps with his hands the opposite edge of the bed or table with the view of fixing the trunk.

"The surgeon stands behind the patient, on the inner side of the affect

ed limb if the displacement is anterior to the cotyloid cavity, external to the limb, if the case be one of posterior dislocation; the dorsum of the foot is grasped with one hand, and the leg is bent on the thigh: while with the other hand placed in the popliteal region, moderate pressure from above downwards is exerted, so as to put the muscles insensibly on the stretch. The limb is at the same time directed somewhat from within outwards, and from behind forward, in order to dislodge the head of the femur from its new situation and render it moveable.

"The surgeon now promptly communicates to the thigh an orbicular motion, rotating it circularly from within outwards, or from without inwards, according as motion in one or the other direction may be more conveniently effected, and the head of the bone re-enters its articulation with a snap. By this process the head of the femur is replaced in the cotyloid cavity, which becomes the centre of the motion of circumduction."

Six cases are detailed, in which dislocation of the hip was reduced by the method here described. And in the same volume it is stated, that M. Lefebvre has employed M. Colombot's plan with the greatest success, not merely in recent cases, but in dislocations of the hip joint which had existed for two months, and even for a year. The number of cases on which M. Lefebvre operated is not, however, mentioned, nor are any of the cases given in detail, an omission which, of course, materially lessens the value of the statement respecting M. Lefebvre's experience, and which is to be particularly regretted as regards the cases of dislocation of long standing, in which this simple method of reduction is alleged to have been successful.

[Professor Williams, of Dublin, brings before the Surgical Society of that city, two interesting cases where the above practice was adopted, and in one with perfect success. It becomes a question, therefore, whether the mode of reduction almost universally adopted, namely, by extension and counter-extension, may not be too implicitly relied upon; for we cannot forget, that in dislocations of the femur, for example, the direction communicated to the head of that bone, and the mode of impelling it in a suitable direction, although by no means overlooked, are often regarded as secondary considerations, the extension and counter-extension being chiefly considered: in these cases traction is often exerted in a direction not *materially* deviating from parallelism to the axis of the body.]

As to the position in which the limb should be placed, while traction is being performed, theory clearly indicates that the thigh should be flexed on the pelvis, and the leg flexed on the thigh, inasmuch as this great obstacle to the reduction of the dislocation is muscular resistance; and this obstacle is manifestly diminished in proportion as we succeed in relaxing the muscles. But the double flexion of the thigh and of the leg effects this object in a very remarkable degree; the greater number of muscles of the thigh being thus relaxed, because their fixed points are approximated, and the powerful triceps does not come into play, inasmuch as all its attachments are inferior to the hip-point. Surely this simple and painless method of *obviating* muscular power is far preferable to *overcoming* the same force by the employment of the warm bath and venesection, the administration of tartar emetic, and the application of mechanical violence. Moreover, flexion of the limb tends to keep the muscles relaxed *while traction on the limb is being made:* whereas, if the force is applied while the limb is itself extended (that is to say, in a position more or less parallel to the axis of the body), the mechanical traction tends to put the muscles still more on the stretch, and thus excite them to a more energetic resistance.

If it be true that flexion of the thigh and of the leg relax those muscles

that are the chief obstacles to reduction, the second point under consideration may be briefly disposed of; for if the force to be overcome is thus diminished, the amount of traction necessary to antagonise that force may be proportionally diminished also.

The position of the limb most favourable to relaxation of the muscles is fortunately the position also most favourable to coaptation, for flexion of the leg upon the thigh gives us a powerful lever (consisting of the entire length of the leg) which may be made of the most essential service in directing the head of the dislocated bone into its articular cavity.

These theoretical considerations would, of course, be of no weight, unless borne out by practical experience; but we find that many eminent surgeons have given more or less sanction to the principles for which I contend; and there are numerous cases on record showing that by their application, dislocations of the femur may often, at least, be reduced with a facility which contrasts very favourably with the results of the ordinary method.

Hey and Kirkland (Hey's Practical Observations in Surgery, 3d Edition, p. 320,) adopted the method of flexing the thigh on the pelvis, and the leg on the thigh, making use of the entire length of the leg as a lever to rotate the thigh, in dislocation of the femur into the thyroid foramen; but neither of these eminent surgeons extended those principles to the reduction of dislocations of the femur on the dorsum of the ilium.

Dublin Medical Press, Jan. 2, 1848, p. 2.

69.—CATHETERS WITH GLOBULAR TOPS.

By George Rogers, Esq., Brighton.

[The suggestion of Mr. Rogers respecting an alteration in the form of catheters, has been long anticipated by Mr. Samuel Smith, surgeon to the Leeds Infirmary, who has been accustomed some years past to use catheters with spherical tops in particular cases, but we believe this is not generally known. Mr. Rogers's suggestion is as follows:]

It has long struck me that the ordinary catheter, whatever its curve may be, is an unsatisfactory instrument for introduction to the bladder in any case, whether of stricture, or more particularly, spasm. In the latter instance, I think it is very objectionable, having a beaked end, presenting throughout its course a surface at all times nearly, if not quite, equal to the calibre of the urethra, and necessarily in course resisted through the entire canal. Now, would not a spherical top to a catheter, of half the diameter of the sphere, be a far superior instrument, from its having only that globular termination, to which resistance would be offered, and never from its formation, abutting upon sacculated points, the middle lobe of the prostate, or any normal narrowing of the passage.

I remember using many years since, the instruments for examining strictures suggested by Mr. Bell, and with what facility they were passed, and simply from the spherical character of their ends. It appears to me to be a mode of improving a very important instrument, and I beg to call the attention of the profession to the suggestion I offer, assured, that although the art of catheterism is in the hands of scientific men, acquainted with every liability of the general structure of the urethral channel, comparatively easy, yet, that even in their hands the modern and common catheter is not a perfect instrument, as it involves the whole passage; whilst the spherical-topped one that I propose, having but a limited surface for resistance, would glide much more easily into the bladder.

London Lancet, Feb. 26, 1848, p. 238.

Besides the foregoing articles on Practical Surgery, we beg leave to refer the reader to the following, in the different Journals, which we need only glance at. Most that is truly useful and practical we have published at as great a length as possible, being aware that when a valuable article is too much cut up by condensation, it looses much of its value. Although the following articles are such that a short reference to them is sufficient, it is possible that some of our readers might wish to know where to find some particular information which they are in search of.

70.—*Amadou, as a Surgical Application.* By J. Wetherfield, Esq. [Amadou is a substance in popular use for lighting pipes, and has frequently been used to suppress hæmorrhage by some medical practitioners. It is extremely soft and elastic in its nature, and well adapted as an application where much support combined with pressure is wanted, as in the form of a graduated compress in the umbilical hernia of children, and as a compress over fistulous ulcers. It may be spread with soap plaster and applied over the sacrum and ilium to prevent inconvenience from long confinement in one position; it forms a good corn plaster, and supports varicose veins when spread with soap plaster.]

Medical Gazette, Nov. 26, 1841, *p.* 337.

71.—*On Wounds received in Dissecting.* By Herbert Mayo, Esq., F.R.S., &c. [It is not so much in the dissecting-room as in post-mortem examinations that the student must be on his guard, as the poison produced in any texture of the body by means of a high degree of decomposition, causes a mild train of symptoms, and that which is traced to the secretions of inflamed serous membranes, and is already in existence even a few hours after death, causes more serious and often fatal illness. If the student prick himself in the dissecting-room, he should wash the wound, then suck it strongly with his lips, and bind a strip of adhesive plaster an inch wide twice round the part, and not remove it for three days; and if the subject be recent, or have died of puerperal fever, phlebitis, or peritonitis, it is well after cleansing and sucking the wound to touch it with the point of a probe that has been dipped in nitric acid.]

Ibid., Dec. 17, 1841, *p.* 463.

72.—*Injection of diluted Tincture of Iodine in Hydrocele.* By J. R. Martin, Esq., formerly Surgeon of the Native Hospital, Calcutta. [Mr. Martin corroborates the statements of Velpeau and other eminent men, on the value of iodine as an injection in hydrocele. His injection is made of one drachm of the tincture to three drachms of water; and of this, two common urethra syringefulls are injected.]

Dublin Medical Press, Dec. 1, 1841, *p.* 339.

73.—*On the Opening of Chronic Abscesses by the Subcutaneous Method.* By M. Jules Guerin. ["This operation is in order to prevent the admission of air into the cavities of psoas and other abscesses of the like kind. M. Guerin uses a flat trocar, long, but of small diameter, and enclosed tightly in a canula. "The canula is furnished with a cock near its larger end, which, when open, permits the trocar to pass, but when shut, exactly closes the canula. The outer end of the canula fits on the nozzle of an ordinary syringe, and all those parts are so adapted, that no air may pass where they fit one to the other. A fold of skin being made at some little

distance from the abscess, the trocar and canula are introduced at its base, and carried under the integuments till the point of the former has entered the sac; then the trocar is slowly withdrawn, and at the instant that its point passes the cock, *that* is turned, and the pus prevented from flowing out. The syringe is now adapted, the cock turned back, and the pus sucked out at once, or with one or more emptyings and refillings of the syringe, if its quantity be very large. When this is finished, the canula is slowly withdrawn, care being taken to keep the walls of the track through which it passes close together. A pad and bandage are then put on the sac, and the track leading to it, and the orifice of the latter is closed with sticking plaster."]

British and Foreign Medical Review, Jan. 1842, *p.* 241.

74.—*On Division of the Muscles of the Face when affected with Chronic Spasms.* By Dr. Dieffenbach. [Dieffenbach performed this operation in four cases in which the disease had existed for a considerable time. The orbicularis palpebrarum was divided, also the muscles of the cheek, from the ala of the nose to the anterior border of the masseter, and lastly, the muscles at the angle of the mouth. The result of the operation was, that the spasmodic affections were cured.]

Ibid, p. 244.

75.—*Treacle and Water for Burns.* By F. A. Bulley, Esq., Surgeon to the Royal Berkshire Hospital. [Mr. Bulley finds that equal parts of treacle and water spread on rags, and kept constantly applied as a lotion to scalds and burns, is very serviceable in excluding air and giving great relief. He thinks that treacle must have some specific effect in expediting the cicatrization of burns and scalds, however extensive they may be; and that it often prevents, in a great degree, the unsightly puckering and contraction which so often follow.]

Provincial Medical and Surgical Journal, Feb. 5, 1842, *p.* 379

76—*Permanent Closure of the Jaws Cured after the lapse of five years, by Division of the Masseter Muscle.* By W. Fergusson, Esq., F.R.S.E., Professor of Surgery, King's College, and Surgeon to the Hospital. [In this case, the man could not open his mouth wider than a quarter of an inch between the incisor teeth of the upper and lower jaws. About five years ago, a swelling had appeared in the situation of the attachment of the masseter muscle to the lower jaw, which gradually increased to the size of a pigeon's egg. In about two years it burst, and continued to discharge matter for six weeks. A swelling, about the size of half a walnut continued to exist on the spot, and the patient was unable to open his mouth. A variety of treatment was adopted without success; amongst the rest, iodine externally and internally. Mr. Fergusson then determined to divide the masseter transversely. He first tried a partial division, by cutting through about half an inch of the anterior margin of the muscle. "The point of the knife was passed from the mouth through the mucous membrane and buccinator muscle, a little below the parotid duct, and having been pushed between the skin and the masseter, the fibres of the muscle were divided by carrying the edge from within outwards." Mr. Fergusson, in about 14 days, cut through the rest of the muscle in a similar way, being convinced, from the result of the first operation, that a permanently good result would follow. The case proceeded very satisfactorily, and was completely cured.]

London and Edinburgh Monthly Journal of Medical Science, April, 1842, *p.* 393.

77.—*Treatment of Iritis and Conjunctival Inflammation, by Belladonna Injections.* By F. A. Bulley, Esq., Surgeon to the Royal Berkshire Hos-

pital. [Mr. Bulley relates several cases in which this treatment seemed highly beneficial; and, although the success of his practice would not induce us to follow it implicitly, there are, no doubt, cases in which want of success by more established methods of treatment would incline us to adopt his own. The lotion which he uses, is injected into the eye by means of a syringe; and in the application of the douche or irrigation, he uses different ingredients in solution, according to the particular structure involved. Thus, in case of incipient iritis and atonic opthalmia, he used a lotion of belladonna with sulphate of copper; but in others, left out the copper. If the iris be the seat of disease, and the conjunctiva likewise affected, he uses the following lotion: extract of belladonna, 20 grains; sulphate of copper, 5 grains; water, a pint. To be injected frequently during the day, with a clean brass syringe, with an ivory pipe, capable of holding from three to four ounces of the fluid; "at first it is necessary to throw the stream upon the closed lids, at least for the first few times. By degrees the patient becomes inured to the shock," and can bear it upon the eye itself. The effects are said to be excellent.]

Provincial Medical and Surgical Journal, April 9, 1842, *p.* 4.

78.—*Case of Nasal Enlargement successfully treated.* By Dr. Charles Clay, Manchester. [This was a case of peculiar enlargement of the nose, in a young lady, unaccompanied with pain or any other inconvenience than the size. Besides constitutional treatment, Dr. Clay made pressure on the organ, by means of a mould made of plaster of Paris, which was useful not only by pressing uniformly, but also by its mere weight. The mould was secured to the head by different tapes, which were applied so as to increase the pressure. In a week the mould was found too large, and a second one was made; a third, fourth, and fifth were obliged to be made, as the nose diminished in size, till it regained its natural dimensions.]

London Lancet, April 16, 1842, *p.* 87.

79.—*Division of the Muscles of the Eye in certain cases of Blindness.* By M. Florent Cunier. [When the central portion of the cornea has become opaque, and the remaining portion continues sound, so as to render it possible for the rays of light to be admitted obliquely through the pupil, it has been suggested very ingeniously by M. Cunier, that instead of making an artificial pupil, we might divide one of the recti muscles, and thereby turn the eye sideways, so as to admit the light much more advantageously through the pupil. He brings forwards several interesting cases, in which the process was adopted with complete success.]

Medico-Chirurgical Review, Jan. 1842, *p.* 211.

80.—*On Inflammation of the Mucous Follicles of the Vulva, and its Treatment.* By M. A. Robert. [This affection frequently accompanies blenorrhagia, or occurs in women liable to inflammatory affections in these parts, from pregnancy, abortion, &c. The chief seat of the inflammation is in those two large mucous follicles at the entrance of the vagina. Its cure consists in introducing one of Anel's stylets into the follicle, and then laying its cavity open by means of a pair of probe-pointed scissors, and cauterizing its internal surface with nitrate of silver.]

British and Foreign Medical Review, April, 1842.

81.—*On Iodine Injections in the Treatment of Serous Cysts.* By M. Velpeau. [This surgeon, from the success which attended the use of iodine injections in hydrocele, has extended the treatment to various kinds of serous cysts, enlarged bursæ, &c., about the knee, in the axilla, breast, neck, and other parts. The cyst is punctured with a trocar proportioned

to its size, thus emptying it; there is then injected through the canula, a mixture of one part of tincture of iodine, with two parts of water. It should be nearly all drawn off in a few seconds. In a day or two the cyst inflames, though never severely, and ultimately shrivels and disappears.]

Ibid.

82.—*Treatment of Old Ulcers by the use of Corrosive Sublimate and Tincture of Iodine.* By W. Fergusson, Esq., Surgeon to King's College Hospital, &c. &c. [E. Bernard, aged 43, was admitted into hospital with a large, foul, and painful ulcer on the lower part of the left leg; extending from the instep nearly six inches upwards, across the whole front of the limb. Several useless attempts being made to effect a cure, Mr. Fergusson put her on a course of mercury, in the following way. "Twelve grains of the bichloride of mercury were made up into 240 pills; two of these were taken for a dose immediately after dinner, the first day, four on the third, six on the fifth, and so on; increasing the dose by two every second day, until the patient should take thirty pills at a time. After this, if necessary, the dose was to be gradually diminished every second day by two pills, until the number decreased to two. The patient proceeded till she took eighteen pills for a dose, which affected the system, and she then desisted taking any more. Meantime, Mr. Patridge had recommended the sore to be lightly touched with a strong tincture of iodine, which had an excellent effect; and it was supposed, by the combination of the two remedies, a most obstinate case was cured.]

London Lancet, Nov. 13, 1841, p. 244.

83.—*On Cauterisation of the Neck of the Womb.* [Simple ulcerations of the neck of the womb frequently require the use of caustic, but it has been ascertained, that the deuto-nitrate of mercury does not cause the hæmorrhage which occasionally follows the use of nitrate of silver; and, therefore, it is recommended that nitrate of silver be only used in those cases which are not accompanied by congestion or sub-inflammation of the womb, as it has rather a tendency, when freely used, to increase the state of congestion. In 1841, out of 44 cauterisations with nitrate of silver, there were 31 in which hæmorrhage followed; whereas there were only 3 cases of hæmorrhage following the use of the deuto-nitrate of mercury, out of 28 cauterisations.]

Provincial Medical and Surgical Journal, April 9, 1842, p. 22.

84.—*On the Subcutaneous Ligature of Arteries.* By F. L. Tavignot. [This operation has never been performed on the living human subject, but M. Tavignot has frequently performed it successfully on the lower animals, and on the dead body. We do not see how it can with any safety be performed, on account of the impossibility of avoiding including the surrounding textures, and especially the nerve and veins accompanying the artery. But M. Tavignot asserts that these textures may be included without danger. From this, however, we beg leave to dissent.]

For the performance of the operation, two sharp needles, each armed with a double ligature of silk or gut, are required. One of these, the one intended to pass under the artery, ought to be larger than the other, as it has necessarily a larger space to traverse. The shorter needle is first to be passed in front of the artery, and withdrawn, leaving the ligature. We then introduce the larger needle at the orifice by which the former issued, and pass it under the artery, bringing it out at the point of entrance of the first. This needle being also withdrawn, we now have in each orifice the loop of one ligature and the two ends of the other. The ends being placed

through the loop are to be drawn tight, and care taken to ascertain, by the absence of pulsation, that the artery is actually included in the ligatures. Such being the case, permanent constriction is effected, by attaching the ends of each ligature to the branches of an instrument in a horse-shoe form, which he recommends for that purpose. Thus the operation will be completed in a few seconds. In case of circumstances arising, which may render it necessary to loosen the ligatures, it is as well to pass a piece of silk of a different colour through the loop of the superficial one; by pulling upon this, we can at pleasure withdraw the ligature and remove the constriction.

London and Edinburgh Monthly Journal of Medical Science, April, 1842; *p.* 393.

85.—*Use of Alum in the Treatment of Stricture of the Urethra.* By M. Jobert. [M. Jobert regards alum as possessing many advantages in the treatment of this disease. He uses it as follows:].

A bougie is selected, the finer at the extremity the narrower the stricture. By placing its extremity for a moment in a candle, it is so far softened, that on immersing the instrument in pulverised alum, it adheres to the entire heated surface; the point is then rounded off between the fingers, so as to communicate to it a suitable shape. The bougie when thus armed, is passed into the stricture and left there for twenty minutes or an hour, according to the period of the treatment, the sensibility of the patient, &c. After a few minutes a slight smarting is felt, but no other apparent effect is perceived. On withdrawing the bougie, a few drops of whitish mucous escape, which M. Jobert considers as tending to liberate the canal of the urethra. Not unfrequently on the day following the application, bougies of a considerable size can be passed into the bladder.

M. Jobert also uses large bougies armed with alum, in the treatment of stricture of the urethra.

Dublin Medical Press, Nov. 24, 1841, *p.* 327.

86.—*On the Process of Inoculation as a Test of Syphilis.* By Herbert Mayo, Esq., F.R.S., &c. &c. [Although much has been written of late on this subject, we have not seen the particular mode of the application more clearly and briefly explained than by Mr. Mayo. Several objections have been repeatedly urged against the process of inoculating a patient to ascertain with certainty whether or not the chancre is really syphilitic. It has been urged, that by producing another sore, we increase the chance of affecting the constitution: but most surgeons now believe that one sore will produce as much mischief as two. It has been also asserted, that matter from any angry sore, introduced below the skin, is likely to cause the point to fester. This, however, is denied by Mr. Mayo. He makes the following remarks on the way in which the inoculation is to be performed:]

Before arming the lancet, the suspected sore should not have been wiped, or dressed with any chemical application, for two or three hours at least. The most convenient part for inoculation is the back of the fore-arm immediately above the wrist.

The point inoculated should be covered with a patch of sticking plaster, and not disturbed for three days.

At the expiration of that period, on examining it, either the punctured point is found to be scarcely distinguishable, having healed, and having no redness about it; or it has ulcerated, and the skin around it is inflamed, and; if the epidermis is not broken in raising the sticking plaster, there is seen a small flat vesicle containing lymph or pus, surrounded by an inflammatory zone. Occasionally, but very rarely, the inoculated point does

not become inflamed during the first three days, but on the fourth or fifth a pustule suddenly forms.

When the inoculation has taken to this extent, the evidence required is obtained. The suspected sore is certainly of syphilitic origin. And, if circumstances are not present to contra-indicate the use of mercury, a mercurial course should be immediately commenced.

It is needless to say, that if the appearance of the suspected sore and its history are such as to make it more probable that it is siphilitic, the mercurial course should be commenced at once, as it does not interfere with the production of the artificial sore.

Then comes the consideration how to get rid of the minute artificial sore. For this purpose it is necessary to apply to it well and sufficiently the nitrate of silver, pencilling the sore with a pointed stick of lunar caustic, so that the texture may be destroyed to the depth of half a line. The sore thus treated, at its origin, will certainly heal. If, however, through the imperfect application of the caustic, it does not heal, but, on the separation of the slough, it presents the same appearance as before, caustic must be re-applied.

Another objection to the test of inoculation is, that it may fail when the case is really siphilitic. But the force of this objection is lessened when it is considered that we can determine the circumstances by which failure is liable to be caused. They are the following:—

a. The secretion having been accidentally removed from the surface shortly before inoculation.

b. The character of the sore having been changed by the escharotic applications.

c. The character of the sore having been changed by inflammation or sloughing.

d. The nature of the secretion having changed through time. I have seen two cases of indurated chancre, one in a female, the other in a man, in which I obtained no artificial sore by inoculation. But in the first of these, secondary symptoms followed; in the second, they had already manifested themselves. The common point in both was, that the sores had been there many weeks. Both were treated with mercury.

Thus, M. Ricord's test of inoculation is in most cases not required; and, when resorted to, must be used with great circumspection; for, if its results are affirmative, the artificial sore requires particular vigilance in its management; and, when negative, the failure to produce a second sore can by no means be regarded as entirely decisive of the nature of the first. With these restrictions, however, and taken as a supplementary means of diagnosis in certain doubtful cases, M. Ricord's test has great utility. It enables one, for example, in a case of strong suspicion, at once to begin mercury, by superseding the necessity of preserving the natural appearance of the sore as a guide in the diagnosis. And again, in cases where the suspected sore begins to heal in a few days after the commencement of the treatment, the result obtained from inoculation helps one to decide whether the further use of mercury is necessary.

Medical Gazette, Dec. 3, 1841, p. 376.

87.—*Opium in Strangulated Hernia.* [In Retrospect No. IV., Article 66, will be found a notice of the opium treatment of strangulated hernia. Mr. George Cooper, of Greenwich, has published two more cases in which this treatment was equally successful. In one, four grains of opium were given, which relieved the pain and sickness, but produced no alteration in the tumour. In four hours the same dose was repeated, and again in five hours. The next day the symptoms were relieved, but the hernia continued in the same state; after the bowels had been opened, however, the pa-

tient quickly recovered, and the hernia gradually disappeared. In another case of strangulation, two grains of opium were given, with the effect of relieving the pain and sickness; and, five hours afterwards, two more grains. The following morning the hernia was gone.]

Medical Gazette, Feb. 18, 1842, *p.* 836.

[Dr. Emsmann recommends the administration of injections containing six ounces of the aqua saturnina, in cases of strangulated hernia, where the ordinary means have failed. They may be administered every eight or twelve hours, and the taxis should be resorted to, three or four hours after each injection. This method may, indeed, be tried, if necessary, but we should doubt its efficacy.]

Hufeland's Journal, 1841 *p.* 62.

MIDWIFERY.

II.—ON ADHESIONS AND STRICTURES IN THE VAGINA DURING PREGNANCY AND LABOUR.

By Dr. Doherty, Dublin.

[In the sixteenth volume of the Dublin Medical Journal, this subject is treated, by Dr. Kennedy, as it is found to exist in the unimpregnated female; and Dr. Doherty, in a clever paper in a more recent number of the same Journal treats of the affection as it occurs in the impregnated female. Adhesions and strictures of the vagina may, no doubt frequently exist in the virgin subject, as well as in one who has been previously impregnated and undergone parturition. When it occurs in the latter subject, it will generally be the result of pressure or injury during labour. The walls of the vagina may become glued together either at one point or throughout the whole surface, or bridles of lymph may be found in different parts. The formation of these cicatrices somewhat resembles the same process from burns.

"The most usual complication is a falciform band encroaching on the area of the vagina, or one or more rings of cartilaginous hardness either traversing its whole circumference, or only contracting a segment of it; and with these there is too frequently found a vesical fistula." If the constriction is slight, it will not be necessary for the practitioner to interfere much during labour.

The relaxation of the parts will almost invariably be sufficiently accomplished by the judicious use of tartar emetic, given in nauseating doses. In most instances, this practice will entirely supersede the use of the lancet. Cases of the greatest rigidity, almost resembling a "cylinder of iron" round the finger, have been relaxed by this medicine in less than six hours. Sometimes, however, a perfect occlusion exists, and in this case, we must have recourse to an operation which must at all times be dangerous on account of the proximity of the bladder on one side, and the rectum on the other.]

"The best instrument," says Dr. Doherty, "which we can employ, is a straight bistoury, covered throughout with sticking plaster, except over a small portion of its extent. It can be safely introduced by carrying its flat surface along the finger, passed into the vagina. In making our incisions we should never allow them to go beyond the sixteenth of an inch in depth at once, and we should frequently withdraw the knife and make a careful examination of the progress we have made. A pair of flat wooden spatulas, introduced one on either side, will, by keeping the parts asunder, facilitate the operation. It will also be found a useful precaution to pass the finger of the left hand up the rectum, in order that we may judge how far our incisions may be carried without endangering that intestine; and it is a matter of prudence to avoid as much as possible, cutting towards the bladder, lest, from its close proximity and intimate connection with the vagina, we open into its cavity. Having thus, step by step, and with the utmost circumspection, separated the adhesions as far as we think prudent, we should wait until the opening has had an opportunity of dilating under

the pressure of the presenting part, when if the head be still prevented from descending we may endeavour, in the same cautious manner, to enlarge the canal a little more."

Dublin Journal of Medical Science, March, 1842, p. 70.

[The next question is, how long are we to wait before operating, when only a severe constriction exists, and when the child's head must of necessity tear through the parts, if those parts are not artificially liberated.

We must remember that in all severe constrictions of the vagina, its parietes are not the only parts implicated. The neighbouring viscera will frequently be too adherent, and therefore any laceration of the vagina will also lacerate those viscera: hence the necessity of timely interference with the knife or other instrument, when we feel convinced that the head will not pass without this. The constriction should, therefore be nicked in two or three places, the incisions never exceeding the sixteenth part of an inch in depth, and being directed laterally or backwards rather than forwards, and the finger of the left hand at the same time being kept in the rectum as a guide. Dr. Rigby recommends that this should be done during a pain, when the patient will probably be unconscious of the act; but the correctness of this practice is certainly questionable, as few patients can be sufficiently quiet on such an occasion for the surgeon to be particular in the depth and extent of his incisions: and moreover the incisions might be very suddenly enlarged if made during a pain. On all these occasions we are not warranted in resorting to an operation, till we feel convinced that relaxation of the parts has been carried to the utmost, and that any further delay might produce laceration.]

89.—REMARKABLE CASE OF RIGIDITY OF THE OS UTERI.

By Edward James Sharman, Esq., Rotherham.

On April 10, 1834, I attended a lady, at some distance from my residence, of her second child; her age was 25: of a decidedly hysterical habit. I found the liquor amnii had been dribbling away for some hours before I saw her, together with a large quantity of blood, with every pain, which was very slight. On examination I found the os uteri dilated to the size of a crown piece, and the fingers of the fœtus just protruding through it, so as to completely fill the opening: the os uteri was not dilated in a ring, as it ought to be, but had two fissures in it, at opposite sides, as if it had been torn, and as hard as a scirrhous uterus. The pains increased rapidly; I tried to gradually dilate the os uteri with my fingers, in order to be able to get hold of the feet of the child, but found it quite impossible; the lady kept losing a large quantity of blood, with every pain, and I found it quite impracticable to make any impression on the uterus. Knowing that every pain she had, made it more difficult for me to turn the child, and as her pulse was not very low, I took some blood from her arm, and gave her a large dose of opium, with the intention of putting an end to this spasmodic action (as I conceived) of the os uteri. The opium made her sleep, but the hæmorrhage continued; and the os uteri remained as hard as ever. At last my patient became faint; I took this opportunity of trying to overcome the state of the os uteri with my hand, but found it quite impossible; I might as well have tried to enlarge a piece of earthenware of the same size. The arm of the child had now come down into the vagina; I was alarmed; she was bleeding to death; I sent for another practitioner; and contented myself with the application of ice and cold, in every possible manner, and plugged up the vagina, keeping a thorough

draft of cold air blowing over my patient. I was afraid of giving the ergot of rye; indeed, I did not see what good it could have done. My friend came; the bleeding continued; he tried to dilate the os uteri, and failed. We agreed to watch, and wait for any opportunity that might occur. We gave her more opium, and used ice, keeping her alive with wine and water, and gruel. Twenty-four hours glided away, when I, on examination, detected a placental presentation with the arm; the os uteri having yielded to our efforts slightly; this made us more anxious for its dilatation; we used our utmost efforts, to no avail; we watched twenty-four hours more, the bleeding occasionally occurring to an alarming degree, until complete syncope came on again. The next day the bleeding was not so excessive, but the os uteri remained the same. At last, on the 4th day, the pains became very violent, and the blood was rushing out of the vagina more like water out of a pump than anything else I can compare it to; syncope came on to a great degree; the os uteri gave way; I got hold of the feet of the child, and delivered as quickly as possible, fully expecting my patient was dead. As soon as she could swallow, we gave her a strong dose of decoction of ergot of rye, with brandy. I kept my hand in the uterus, to keep up as much contraction as possible, until the ergot began to act, when the placenta was expelled by the uterine efforts; we kept her under the influence of ergot for some hours; she rallied a little that night, and eventually recovered. I took great care to keep the rectum and bladder empty throughout the whole attendance.

During these five days I consulted every work on midwifery that had been published, and could find no allusion to this state of the uterus in any of them, except in Dr. Blundell's Lectures published in the Lancet; and there he evidently had never met with a case so obstinate, and his advice is to wait, and seize the earliest opportunity to dilate. It occurred to me that the irritation of the arm of the child might bring on this sort of permanent spasmodic action of the uterus; but in two years afterwards, the same lady was taken in labour again with the very same symptoms, but a presentation of the placenta only, and a little more than seven months' pregnancy. On this occasion I was confined with her for more than a fortnight, and only dare leave her when the state of syncope was so great as to stop the uterine action. On one occasion I left her for about four hours; her husband rode after me; and when I arrived, I found her bleeding to a most alarming extent; the uterus in the same horrid condition; I fully expected her dying every instant, indeed she only just breathed; I plugged up the vagina with sponges dipped in iced water; made great pressure on the os uteri from the vagina, and also pressed over the uterus very strongly from the abdomen; I dare not give any stimulus to the stomach, and contented myself with external stimuli; she rallied again in some hours, and it was three days after that before the os uteri gave way. I then instantly passed my hand by the placenta, got hold of the feet, and delivered In each of these cases I found less difficulty in turning the fœtus than I expected; the uterus at last seemed to be quite exhausted, and gave way to my efforts. I cannot too highly extol the virtues of the secale cornutum in these cases; it brought on muscular action in the uterus at once, and evidently preserved the life of the woman when nothing else could.

Since then I have had the same lady in the same stage again, with placental presentation and twins; and another patient (a very hysterical woman) with placental presentation, and the same scirrhous-like feel of the os uteri, which occasioned me very great anxiety, and occupied my whole time for nearly a week.

Provincial Medical and Surgical Journal, March 5, 1842, *p.* 449

[We believe, as the Editors of the *Provincial Journal* state, that "M. Dubois has, in several cases of the above kind, divided the neck of the uterus with the best effects;" and certainly, we should not hesitate, where the life of the patient must be all but sacrificed, to make some such effort to relieve her. At the same time, where the os uteri had dilated to the size of a crown piece, we suspect that by cautious efforts it might have been dilated more: and, if the plug had been used in the way we have previously recommended, it would have been found a very efficacious way of checking the hæmorrhage: i. e., not by one or two large pieces of rag, but by one small piece after another, so as to fit them accurately to the mouth of the womb, and so on till the whole of the vagina is most completely plugged. When this is done effectually, we can assert after very long experience of its efficacy, that few cases of hæmorrhagee need be dreaded. Of course, in the above case, this would only have been a temporary remedy, but would have given more time for other steps to be taken. We have often thought, that the beautiful process of dilating the urethra, as first practised by Dr. Arnott, might be of great service in these cases, and in many others which require manual inteference to obtain dilatation of the os uteri.

90.—ANTE-VERSION OF THE WOMB CURED BY POSITION ALONE.

By Dr. Godefroy, Professor of Midwifery, Rennes.

[In this case the usual symptoms of ante-version were present, and Dr. Godefroy not being able to see her immediately, gave the following directions:]

He advised her to be put on the side of the bed, with her head and hands on the floor, and with only the anterior part of the thighs and legs resting on the bed. He says, that in this position the intestines are drawn towards the diaphragm; that the pelvis is consequently emptied, and the uterus being no longer pressed upon, resumes its normal situation. And this is what happened to the lady in question. She had scarcely been fifteen minutes in the above posture, when all painful sensations subsided. She then went to bed, where she was when Dr. Godefroy saw her, two hours after her attack. At this time she only complained of a feeling of weariness in the pelvis, with heat of the external parts. He did not practice the toucher. Being so delighted with the result of this case, he determined to try the same position in the next case that he saw, which was not till October, 1841.

Case 2.—Madame C., between three and a half and four months pregnant with her first child, 33 years, and well formed, was seized, on the 27th October, 1841, with a feeling of weight in the pelvis, and with frequent calls to make water. She went to bed, but did nothing else. She was able to get up next day. Dr. Godefroy was sent for on the morning of the 29th, as she thought she was going to have a miscarriage. He found similar symptoms to those already detailed in the first case. Upon examining her by the toucher, the neck of the uterus was felt behind and towards the curvature of the sacrum, while the fundus was in front and behind the pubis. As the bladder did not appear full, the catheter was not introduced. The patient was placed in the position recommended, viz., the head and hands on the floor, with the front part of the thighs and legs resting on the bed. Dr. G. was witness of the progressive improvement observed in this lady; at first the feeling of weight in the pelvis diminished and then the desire to void urine ceased. As the position was very

fatiguing, she was supported by the shoulders. She was kept for twenty minutes in this posture. Upon her lying down again in the bed the uterus was felt by the toucher to be in the natural position. He is anxious that his medical brethren should adopt the same mode of treatment in similar cases, until it can be seen whether a more extended trial will sanction its employment.

London and Edinburgh Monthly Journal of Medical Science, March, 1842, *p.* 213.

91.—NEW OBSTETRICAL INSTRUMENT, THE KEPALEPSALIS.

By William Campbell, M.D.

[This instrument has been stated to be valuable in extracting the fœtus in cases of contracted pelvis, even when the distance from the promontory of the sacrum to the pubis is only one inch and an eighth. The late Dr. Davis of the London University invented an instrument to accomplish a similar purpose, which he called the *Osteotomist*, which can be used when only one inch intervenes between the sacrum and pubis, thus "reducing to zero the necessity for performing the cæsarian section," and so extraordinary is its power, that it would cut through "beef ribs." Mr. Simpson, of Edinburgh, seems to have invented an instrument of somewhat different construction, which is described as follows:]

The kepalepsalis is so constructed that it may be applied with perfect safety to the maternal structures in any pelvis with a space of only one inch and an eighth between the promontory of the sacrum and the symphysis pubis: it cuts out the piece of bone within its grasp with such facility, as to require but a very moderate degree of power from the operator: it is capable of removing large portions of the skull in each successive application, whereby our object is attained with comparative expedition; and finally, while one or more portions of bone, after being separated, are still lodged in the instrument, other pieces may be cut away, and the whole simultaneously extracted by the instrument itself; thus superseding in this part of the process the use of the fingers. The only difficulty that can be experienced in the application of this contrivance is one inseparable from every case in which such aid can be required, whether the confinement of the pelvis be extreme or not; viz., placing, during its successive applications, the presenting part of the cranium within its grasp. If a plate of mahogany, or of any other kind of hard wood, the thickness of one of the cranial bones of the fœtus, be covered with thick chamois leather, and placed within the grasp of the kepalepsalis, the great ease with which the included portion is cut through will afford a good idea of the powers of this agent.

The following is a description of the Kepalepsalis in Mr. Simpson's own words:—The length of the instrument is thirteen inches and a half; that of the cutting part two inches and a half; and of the handles eleven inches. It is formed on the principle of scissors, but differs from them in so far that, instead of making a division, it effects the separation of the entire portion placed within its grasp. This is effected by continuing the outer blade round the extremity of the inner one, and returning it along the opposite side, so far as the joint or screw, where it forms one solid piece with the handle. When open, the blade resembles a box, two inches in length and half an inch in width, into which the inner blade is accurately fitted, and the cutting action is performed by the edges or corners of this blade passing those of the outer one into the box, as the handles approach each other. It will with equal ease remove a piece about the size

and shape of the index finger, and half an inch wide: or the most narrow portion it may be necessary to detach, as from the peculiar construction of the blades they cannot be thrown from their acting position.

London Lancet, March 12, 1842, *p.* 823.

[On examining the description of the Osteotomist of Dr. Davis, we do not perceive how the instrument used by Dr. Campbell will be much more advantageous. Dr. Davis describes his Osteotomist as follows.]

The smallest measure of pelvis compatible with the extraction of a dead child piecemeal, by the natural passages, without great risk of danger to the mother from the force used in the operation, has been more disputed than positively determined. I have known examples of fœtal heads so large, even after being opened and evacuated, as not to admit of being brought down through the superior aperture into the cavity of the pelvis without the exertion of considerable force, even with a conjugate diameter of little less than three inches. With a conjugate diameter of two inches and a half, the extraction of the basis of the fœtal skull will necessarily be attended with much additional difficulty. Where the same diameter is no more than two inches, then the attempt to extract a full-grown child by the natural passages, by means of the crotchets, used with much force for a long time together, would expose the soft parts to much risk of contusion, and the woman herself to the eventual loss of her life. There must be limits somewhere to the safe use of the crotchets, and these limits should exclude even an approach to a violent exertion of extracting force. The expedient I have to propose for the relief of such cases, and as a substitute for the exertion of inordinate force in their treatment, is a power by which any portion of the fœtal skeleton, presenting at the brim of a contracted pelvis, may be broken into small fragments of about half an inch in diameter, with the most perfect impunity to the structure of the parts of the mother. As far as I know, it is an example of a new application of mechanical power, combining the principles of a punch and a pair of scissors. The whole instrument is made of solid and well tempered steel; its cutting ends are worked into two long and fenestrated oval rims of unequal size, but of nearly equal strength. The smaller is of a size to enter into and to fit closely within the parietes of the larger. The mutually adapted parts of each being formed into a continuous oval edge, they become competent, when brought together, and firmly applied to their object, to exert a prodigious power upon a portion of bone placed within their grasp.

Its cutting edges are protected by being inclosed within the level of the thicker parts of their respective rims, which are everywhere rounded and polished into smooth surfaces, without points, angles, or projections of any kind.

The handles are of great length in proportion to the parts anterior to the joint, and being of sufficient strength to be perfectly inelastic and inflexible, their power must be deemed equal to the full length of their leverage.

[Dr. John Davis, referring to this description of his father's instrument, says:]

The power of the instrument is such that it will, as my father was in the habit of demonstrating to his pupils, remove sections from a rib of beef, provided those sections correspond in length with half the length of the cutting portion of the instrument; the strength of the handles, moreover, must be such as to prevent the action of elasticity from coming into play. The thinner portion of the skull may be removed in sections corresponding with three-fourths of the entire length, and those constituting

the base, being thicker, in sections corresponding with the two-thirds of the entire length of the cutting portion of the instrument.

"One or two sections," observes the author, "taken out by the osteotomist from the basis of the skull, the most bulky part of the cranium, will generally put an end to all difficulty in the delivery by the crotchets. In cases of greater confinement, a few additional sections will perhaps be required to be made, in order to give a sufficient degree of facility to the after-part of the operation.

The extreme breadth of its broader oval rim, is three-quarters of an inch. I may, therefore, take it for granted, that wherever there may be sufficient space to admit of the introduction of this instrument, together with the point of an index finger to protect the soft parts, and to feed it with successive purchases of bone, it will be practicable to effect, and therefore prudent to attempt, delivery by the natural passages. There are few pelves, even in large collections of distorted ones, so small as not to furnish from between one and one inch and a half of conjugate, or at least of antero-posterior diameter, across some part of their brim. In any such cases, I should think it my duty, with the osteotomist, to undertake delivery by the natural passages."

It is perfectly true that deliveries were accomplished through the carved representation of the pelvis of Eliz. Thompson, exhibiting a conjugate diameter of only one inch; but here, as my father observes, there were no soft parts to interfere with the free movements of the operator, and which, under the circumstances of an operation on a living subject, would require to be guarded with the strictest care against exposure to violent pressure of any kind.

"In making use of the osteotomist, the operator is recommended to be as gentle as possible in every change of position of the hand within the pelvis, and even in the movements of the finger or fingers employed by him to guard the soft parts of the mother and to feed the purchase part of the instrument: inattention to this recommendation will be productive of contusions and lacerations, the common results of quick movements and forcible efforts."

Its cutting portion measures one inch in length, and five-eighths of an inch in width, and exhibits an oval outline. The entire length of the instrument is exactly twelve inches; the length of the handles, eight inches and two-eighths. In one of the plates of the work quoted, an outline is given of the purchase part of a very small osteotomist, such as may be obviously used in very confined space; the handles or shanks of such an instrument being intended to be made on the scale of the common osteotomist.

For several years my father has had a decided preference for the use of another variety of the osteotomist, competent to remove long sections through, and in different directions across the fœtal skull; the reason for my father's preference having been, that, by this long section, the bones were sooner made to collapse under the attracting force applied by the crotchets, the process of lessening was much shortened, and the delivery was thus more speedily and safely accomplished.

The entire length of this last specimen of the osteotomist is thirteen inches; the length of the cutting portion two inches; width of cutting portion, five-eighths of an inch.

Another form of osteotomist, competent to remove curved sections, is also figured in the work, but this has very rarely been employed.

Ibid, April 9, 1842, p. 46—48.

92.—ON THE CONTRACTION OF THE WOMB.

By Dr. Alison.

In a paper read before the Medical Society of London, Dr. Alison proceeded to say, that the expulsory efforts of the womb were excito-motory movements; the contents of the womb were the stimuli, and the womb was the organ stimulated: labour, at the fortieth week of utero-gestation, depended on the accession at this period of great acuteness in the nerves of impressibility, or, as they were called, of organic sensibility, by which the impressions made by the embryo were readily experienced, and conveyed to the nervous centre, where the nerves of motion became stimulated; of great activity in the corresponding motor cords of the uterus proceeding from the nervous centre, and on the full and perfect developement of the contractile fibres of the uterus. The nerves of impressibility, after ramifying in the womb, joined the sacral nerves, and proceeded to the spinal marrow, perhaps to the brain itself. The nerves of motion proceeded certainly from the spinal marrow, and, perhaps, from the brain, and forming part of the sacral nerves reached the uterus. That these nerves proceeded to and from the brain itself, was rendered probable by the inactivity of the uterus when the brain was in a state of inaction, as during coma, apoplexy, complete narcotism, and depression of the skull, and by the preternatural activity of the contractile structure of the womb, ending in preternatural delivery, premature labour, or abortion, during the condition of irritability of the brain, whether from strong mental emotion, mania, delirium tremens, or the early stage of febrile diseases. That these nerves pass into the structure of the spinal marrow, is evinced by the derangement of their action attendant upon division of that part of the spinal column. The impressions conveyed by the nerves of impressibility were usually communicated to the motor nerves or fibrils in the spinal marrow, and perhaps in the brain also. It was suggested that the impressions to the motor fibrils might take place in a third part also, viz., in the womb itself; and this opinion obtained some countenance from certain movements of the gravid uterus which had been alleged to take place after the separation of that organ from the body, under the application of stimuli. This connection of impressions in the organs themselves would enable the physiologist to account for the *post-mortem* movements of the heart, stomach, and bowels, after separation from the body, on the application of stimuli, without reference to any inherent contractility in the fibres, independent of the nervous system. The termination of the fortieth week of utero-gestation, was the only season at which the contractile efforts of the womb were stricly natural; but these efforts occurred on other occasions, both in the unimpregnated and in the impregnated uterus, leading to the expulsion of false membranes, moles, and hydatids, to abortion, and to premature labour. These latter contractile efforts depended on the preternatural presence of that active condition of the nervous structure subservient to the womb, which occurs only in health, at the fortieth week of utero-gestation. Preternatural activity of the womb, as well as inaction of that organ at the proper season for labour, was referred to certain morbid conditions which might exist in the brain, the spinal marrow, in the nerves, in the contractile fibres of the uterus, or in the embryo itself.

London Lancet, Dec. 18, 1841, *p.* 416.

Dr. Marshall Hall observed on this subject,—That there could be no doubt that the action of the uterus in parturition was a function of the spinal marrow, as distinguished from the cerebrum and the ganglia, the other

subdivisions of the nervous system. M. Oliver had related a case of parturition, perfect in every respect, in a patient suffering paraplegia; the disease was one of hydatid tumour pressing the spinal marrow, between the first and fourth dorsal vertebræ. M. Brachet had detailed a case of paraplegia in which there was complete inertia or inexcitability of the uterus, and though former accouchements had been speedy, it was in this case necessary to use the forceps. The seat of the disease was not mentioned, but he (Dr. H.) imagined that it must have been so low in the lumbar region as to have interfered with the reflex uses of the incident and reflex nerves of the spinal marrow. There were several interesting facts which bore upon this subject. In the common hen, an egg was deposited prematurely, if the border of the cloaca were irritated by a few grains of salt. If the tail of the turtle were separated from the rest of the body, together with the cloaca in the ordinary manner of the cock, and if the cloaca were distended with water, this water gushed out on irritating the integuments a little higher than the spincters. The lower portion of the abdomen of the libellula deposited eggs in the proper season on being shaken about on rough paper. There were cases on record of the human fœtus born after the death of its parent, the spinal function having survived that of the brain and heart; these facts bore out the views of the author of the paper.

Mr. Pilcher thinks that uterine contractions are essentially connected with excito-motory action. Mental impressions sometimes induced and sometimes prevented uterine contractions; and this proved a connection between the brain and the uterus, the same which existed between the brain and other parts. The excito-motory nerves terminated in the grey matter of the medulla spinalis, while the nerves of volition and sensation ran up into the brain itself; the investigations of Grainger had decided this point. Grey nervous matter, wherever situated, elaborated nervous force; the ganglia formed a beautifully-connected chain throughout the body, subservient to excito-motory action. Mr. Pilcher agreed with the author of the paper in regarding the fœtus as the stimulus of the uterus. The medulla spinalis might be regarded as a chain of ganglia. The locomotion of man was occasionally excito-motory. In the lower animals, such as the rabbit and hare, the sole of the foot was very insensible to ordinary impressions, but the slightest touch upon the hair or fur on the back of the part would induce excito-motory actions, even when the animal had been dead for some time. At this period the nerves were large, and it was well known that the nerves in the heel in man were large also, and that ganglia were found here and there. In man, the will commenced the locomotive efforts, and these afterwards became excito-motory, and independent of the mind of the individual. The impressions made upon the sole of the foot excited the ganglia of the part, and these roused to action the muscles of the members; it was thus that the merchant, absorbed in commercial transactions, walked unconsciously, and passed his own door.

On this subject Dr. Marshall Hall observes, that—On removing the cerebrum certain phenomena are removed; these were those of sensibility and voluntary motion. Those actions which he (Dr. H.) would beg to call spinal rather than excito-motory, and those of the ganglionic system remained. On removing the spinal marrow, the spinal actions or excito-motory phenomena ceased in their turn; the function of respiration ceased; deglutition and the action of the spincters were annihilated, with all those actions which had been denominated sympathetic, and a series of facts observed by Redi, Whytt, and others. If the experiment were properly performed on the frog, the circulation might remain vigorous, and might be effected through the medium of the ganglionic system which now

remanined alone. However familiar the acts of ingestion and of egestion, and the actions termed sympathetic, had, of course, long been, they were not formerly referred, distinctly and exclusively, to the spinal marrow. Now, that the action of the uterus in particular was a spinal action, seemed to be proved by a variety of circumstances. The whole of the act of parturition, and therefore the art of midwifery, depended on the principle of the spinal marrow, or excito-motory action. An interesting fact afforded a point of this view of the subject; in protracted uterine hæmorrhage a douche of cold water, induced sudden contractions of the uterus, and arrestation of the hæmorrhage. Might not lingering labour be hastened by the same measure? Another fact of the same kind was that of the introduction of the hand within the uterus, well known to practioners of midwifery. The effect of the douche in uterine hæmorrhage was not that of the mere application of cold; the constant application of ice produced no such effect; it was the sudden change, the sudden impression on the nerves, which induced contraction of the uterus, just as the dashing of cold water on the face, or on the general surface, induced sobbing inspirations. The same principle would guide us in the treatment of syncope and asphyxia. The surface to which the douche was applied should be first warmed; the impression of the cold might then be secured.

Mr. Procter believed that the application of cold in connection with uterine action was highly important. The douche applied from a distance produced remarkable effects; he had introduced his hand into the uterus on some occasions, but he regarded this mode of proceeding as of questionable utility; he preferred pressure with the hands upon the abdomen. In one case the uterus contracted well after delivery, but a few hours subsequently it was found that this organ had been relaxed, and was distended with blood; pressure with the hands upon the abdomen in this case was useful. He recommended pressure, together with the application of cold from a distance, in cases of non-contraction of the uterus after delivery.

Ibid, Jan. 1842, *p.* 481.

83.—HÆMORRHAGE AFTER DELIVERY ARRESTED BY THE APPLICATION OF COLD WATER TO THE INTERNAL SURFACE OF THE WOMB.

By Dr. Hecking, of Coblenz.

A weak and delicately made woman, soon after she had been quickly and easily delivered of twins, began to have more than usual hæmorrhage from the uterus. Permanent pressure on the abdomen, with friction over the uterus, and repeated dashings with cold water were employed, but they were all ineffectual, and the hæmorrhage grew more rapid. The author therefore introduced his hand into the uterus, (after having dipped it in cold water,) and doubling his fist, endeavoured, first, by rubbing the parietes, and then by compressing them against his other hand, which was placed on the walls of the abdomen, to bring on contraction of the uterus. But this plan also was altogether useless; the uterus, still remaining distended, was every instant filled with fluid and coagulated blood. After all attempts had proven vain, and when the patient's danger was not extreme, the author took a sponge dipped in cold water, and then squeezed it on the internal surface of the uterus, so as completely to wet it all over, at the same time maintaining the external pressure. As often as the sponge became covered with coagulated blood, it was taken away, washed with cold water, and again introduced as quickly as possible. By this means several times repeated, (for in the powerless condition of the patient it was not

a difficult thing to do,) the hæmorrhage was at last arrested, and the woman's life was saved.

American Journal of Medical Science, Oct., 1841, *p.* 495.

94.—CASE OF GRAVID UTERUS PASSING INTO THE SAC OF AN OLD INGUINAL HERNIA, IN WHICH THE CÆSARIAN SECTION WAS PERFORMED.

By Theophilus Fischer, M.D.

On the 12th October, 1832, Magdalene Munger, 44 years of age, from Wohlen, living on the parish of Kœnitz, was taken as an urgent case to the surgical department of the hospital (Insel) at Berne, under the superintendence of Dr. Isenschmid, (professor of surgery,) in whose absence, at that time, the duties of the institution were conducted by the author of this paper.

Upon examining the patient, it was found that she had had seven children, six girls and one boy. Ten years previous to her marriage she had an inguinal hernia on the right side, which was neglected, she having never worn a truss. In every pregnancy the woman suffered much inconvenience from the hernial tumour, which frequently became very large.

She was now pregnant of her eighth child, and at the sixth month of her pregnancy. The hernia had been incarcerated for several days previous to coming into the hospital, but her sufferings had been subdued by cataplasms of linseed meal and cold applications, by which means the hernia was reduced. After the hernia was reduced, the most severe pains came on suddenly in the whole abdominal region, in the loins and lower extremities; and, during these pains, the impregnated uterus got out of its natural position and protruded through the inguinal ring, covered by the hernial sac. The gravid uterus was easily distinguished, and of an egg-like form resting upon the thighs to the length of eight inches downwards, and six inches in circumference. The woman, lying upon her back, was free from pain. No menstrual discharge had taken place for six months. On examination per vaginam, the os uteri was found, as is generally the case in pregnancies of six months, only a little retracted, higher and more inclined to the right side. The functions of the bladder and rectum were natural. The abdomen was small, relaxed and wrinkled. By applying the stethoscope to the lower and anterior part of the tumour, and placing the ear on the orifice of the instrument, regular pulsations were discoverable. From this time the patient never abandoned her bed, always maintaining her position on the back: and in this position she was tranquil, and had no return of pain up to the full period of her pregnancy, although the dimensions of the uterus gradually increased to such a degree that, on the 19th January, 1833, it measured 25 inches and 2 lines in circumference, and in length 22 inches and 10 lines, the circumference at the base being considerably smaller. On the above-mentioned day, at six in the evening, the woman felt herself unwell; she had pains in her loins and abdomen, and contractions of the uterus: the orifice of the uterus became dilated, and, between six and seven o'clock, the waters per vaginam escaped, upon which the pains increased prodigiously. In consultation, Dr. Leuch decided upon performing the cæsarian section, which he performed about nine the same evening, in the presence of Professors Isenschmid, Hermann, Emmert, the medical men Nichans, Fischer, and some students.

The woman, placed on her back, Dr. Læuch standing on the right side of the patient, formed on the lower half of the tumour a fold of the integuments on the right side, making an incision longitudinally, seven inches in

extent. By a second incision he opened the hernial sac, and the fundus of the uterus; the placenta, which adhered at this part, was divided by the same incision, and bled profusely, after the opening into the uterus was enlarged. The membranes were also divided, out of which the remaining part of the waters ran. The operator then introduced his hand, and found a living, healthy, well-formed child, with its head at the fundus of the uterus, and with its feet towards the hernial ring. The funiculus umbilicalis was divided and tied, the placenta detached, and the child given to the care of a nurse. The wounded uterus bled very much, and retracted itself to at least three-fourths of its former extent. The wound of the integuments was now made clean, and brought together by ligatures. At the lower part an opening was left, to admit of the escape of blood. Upon the incision were placed some straps of adhesive plaster, and compresses of lint, and the whole secured by a spiral bandage lightly. The patient being now made clean, was left to rest. Her countenance was pale and shrunk; on a sudden she had hiccup, and severe pain in her back and loins; her pulse was weak, and she had given to her a draught of Liq. Anod. Miner. Hoffm. Tinct. cinnamon. et Tinct. opii.

Before midnight the bandage was made looser on account of severe pain; and at two hours after, the bandage was removed entirely. A small artery bleeding, shewed itself in the hernial sac, and some coagulated blood was found in the cavity of the uterus and its vicinity. Towards the morning of the 20th of January, the patient was more quiet, but very weak, and ether was given to her. On that day a constant vomiting followed after every thing she took, without distension and sensibility of the abdomen; and with these symptoms the patient died at between three and four o'clock on the morning of the 21st. The *sectio cadaveris* was made thirty hours after death.

The circumference of the tumour, taken horizontally, measured 17 inches; and longitudinally, 21 inches 9 lines, and the base 18 inches 6 lines. In the cavity of the abdomen it was discovered that hæmorrhage had taken place from the wounded uterus—the ligature applied to the incision of the hernial sac being found in its proper place. The inguinal ring was so much extended as to admit an open hand to pass through with ease. The hernial sac was above, and to the right, and the uterus below, and to the left part of the ring. The incision in the uterus was found to the right, and in front. The colon was found detached, but lying in the hernial sac, and measuring 12 inches in its outer circle. A small fold of this intestine was found adhering to the inguinal sac posteriorly. The pelvis was large, and well formed.

The infant is still living, and healthy.

London and Edinburgh Monthly Journal of Medical Science, Jan. 1842, *p.* 28.

95.—PRECAUTIONS TO BE USED IN DETECTING KIESTEIN.

By H. Lethebt, Esq., A.L.S.

The urine should be procured at a time when the woman is as free from disease as possible; and I believe that passed early in the morning, after rest, gives the least variable indications. This should be exposed, in a tall narrow glass, to a continuous temperature of about 70 degrees of F.; if a much lower temperature than this is used, say about 40 degrees. I have known the urine to stand for more than a fortnight without undergoing any change, although it be replete with kiestein or its principles, at a temperature of 70 degrees. However, if the woman be pregnant, we shall observe in two or three days, the first indication of its presence by the urine becoming turbid. In a day or two more a thin pellicle forms on its surface,

and this gradually acquires consistence up to a fortnight from the onset of the experiment. But long before this time you will have noticed its characteristic odour; certainly not like cheese, to which Dr. Bird compares it, but precisely analogous to the smell of raw beef beginning to putrefy: it is emphatically a *putrid smell*. I have kept the urine more than a month after this, but it never loses either its pellicle or peculiar odour.

Besides the error likely to arise from the adoption of too low a temperature, where the kiestein would not be separated, I would warn the earlier experimenter not to fall into the opposite error of confounding the pellicle which forms upon all urine on standing, especially that which contains the lithates in excess; the more so as the general as well as microscopic appearance of this pellicle is often precisely like that of kiestein. The appearance I am now alluding to, however, is never accompanied with the putrid animal odour; but, on the contrary, gives out a copious smell of ammonia, and when disturbed falls immediately to the bottom of the liquid. These are the two especial distinctions.

Medical Gazette, Dec. 24, 1841, *p.* 505.

96.—ERGOT PRODUCING ABORTION IN COWS.

In the neighbourhood of Trois Croix there has this season been an epidemic of abortion among the cows, which has caused much consternation among the farmers. M. Bodin, director of the school of agriculture, has discovered that the grains of rye, and many other of the gramineæ, contained a considerable quantity of ergot. This, he concludes, was the cause of the animals aborting. The observation merits attention, for it may be found that the ergot of all grains, as well as rye, produces the same effects.—*Journal de Med. et Chirurg. Prat. Oct.* 1841.

[We are not aware that any experiments have been made with the ergot of any of the *Gramineæ* excepting rye, which, if true, is surprising, as many other individuals of the family are subject to ergot. Phœbus enumerates thirty-one grasses liable to it. "In the summer of 1838," says Pereira, "nearly all the grasses growing in Greenwich marshes were found ergotised. But the disease is not confined to the *Gramineæ*—the *Cyperaceæ* are also subject to it, and perhaps also the *Palmaceæ*."—*Ed. Month. J.*]

London and Edinburgh Monthly Journal of Medical Science, Jan., 1842, *p.* 72.

97.—REMARKABLE BIRTH OF TWINS.

By Dr. Schroder.

On the 16th of November, I was sent for, to a robust healthy woman, who, *three days before* had been delivered of a first child about 29 weeks old, in order to remove the after-birth. I very soon discovered that there was a second child in utero. The woman appeared to be vigorous; there had been no pain since the birth of the first child; there was no hæmorrhage; the bladder was not distended; the situation of the child was not high, the head presenting: and I saw no reason for forcing delivery. I visited the woman several times, to ascertain the progress. *At last on the sixth day the second child was born*, and immediately afterwards the after-birth came away, without any assistance. Both children are living.

Vochenschrift fur die ges. Heilk., p. 849.

28.—ON THE PREVALENCE OF CALCAREOUS SALTS IN THE URINE OF PREGNANT WOMEN.

By M. Donne.

M. Donne supposes that the quantity of calcareous salts, commonly found in the urine, ought to be diminished during gestation, imagining that part of them is required for the formation of the bones of the fœtus. To determine this point, it would be necessary to know the normal quantity of the salts of lime, and then to compare the results with those furnished by the urine of women who are unquestionably gravid. To accomplish this object, pour into a graduated measure 50 parts of urine, and add to it 30 parts of hydrochlorate of lime, when a precipitate is obtained, which in normal urine ought to vary between 40 and 50 parts; so that, in the urine of the pregnant woman, its quantity will be much less, the greatest amount being 30 parts. Before making this experiment, it must be ascertained whether the urine be acid or alkaline; and if it is not alkaline, it must be made so by adding some drops of ammonia. The precipitate which one ought to obtain is the phosphate of lime, a salt which is soluble in weak acids. In the same way the urine may be treated by adding a little of the water of barytes, when from normal urine a precipitate of the salts of barytes of from 12 to 15 would be obtained; and, from the urine of a pregnant woman, of from 5 to 8 parts. It is necessary to remark, that these precipitates are not got till the liquid has been allowed to remain at rest for about twelve hours.

It appears, then, that the difference in the proportion of the precipitates is very considerable, and not the mere result of chance. Donne convinced himself of this by a great number of trials. Thirty-six specimens of urine were brought to him,—of pregnant, as well as non-pregnant females,—and in two instances only did he make a mistake as to the class of patients to which each specimen belonged. It is well to state, that these specimens were from women in the obstetric clinical ward, where patients are only admitted at an advanced period of gestation. I have discovered pregnancy by this test, in three women in whom neither the *toucher*, nor auscultation, afforded any signs as to their condition, and whom this result proved to be in the family way. In one of these cases (that of a young woman, fifteen days behind her proper monthly period,) I sent a specimen of the urine to Donne, who found in it the peculiarity which we have noticed. This patient, however, had a miscarriage about a month afterwards, when the embryo, from its appearance, seemed to be in the third month. Donne observed a diminution in the calcareous salts of the urine, in a very remarkable manner, in a woman whose urine he examined for a totally different object. On the first occasion he found the normal quantity of precipitate; a short time afterwards, repeating his experiments upon another specimen, he discovered a notable diminution in the precipitate. From this he suspected pregnancy; and the result justified his suspicions, for she had an abortion three months afterwards.

We leave it to our readers to put what value they please upon this character of the urine of pregnant women; it is for them to repeat the experiments, which, as has been seen, are so easily performed.

Whatever truth there may be in it, we avow, that the theory which has conducted Donne to his researches, is a most attractive one. All authors who have written on embryology, consider ossification as taking place on the fifteenth or thirtieth day after conception. This new formation of osseous parts can only take place at the expense of the mother. It is, therefore, quite logical to endeavour to find out whether the calcareous salts of the urine of the mother are diminished.

Hitherto all experiments made have been with the urine of pregnant women, as contrasted with those believed not to be so, but marriageable, and who, therefore, might be in that state. We do not know whether the proportions which we have given would remain the same, were we to compare the urine of women pregnant, or supposed to be so, with that of men, children, or women above the age of child-bearing. This is an important point to ascertain: for it may so happen that the quantity of calcareous elements in the urine is not the same in individuals of the same age, of different sexes. Judging from the difference which exists in the form, structure, and composition of the bones in men and women, and in the young and the aged, this seems very probable.—Abridged from the *Annales d'Obstetrique, des Maladies des Femmes, et des Enfans, No.* 1, *January*, 1842.

London and Edinburgh Monthly Journal of Medical Science, Feb., 1842, *p.* 207.

99.—ON THE USE OF THE PLUG TO PRODUCE PREMATURE LABOUR. By Dr. Scholler.

Two modes of producing premature labour are resorted to at the present day. Either the membranes are punctured, or a tent of sponge is introduced into the os uteri, as recommended by Professor Kluge. The former method is liable to the objection of causing the too rapid escape of the liquor amnii, and thus endangering the life of the child when labour-pains are tardy in their occurrence. The second is often extremely difficult to accomplish, or even impossible when the os uteri is directed very much backwards, or when the patient has never before been pregnant

Dr. Scholler was led to try the plug, from having observed that when used to suppress hæmorrhage, in cases of placenta presentation or of threatening abortion, it had a considerable influence in exciting uterine action. He had observed, also, one case where its employment to restrain hæmorrhage was followed by premature labour, which it seemed to have occasioned. He recommds filling the upper part of the vagina with balls of charpie, which, for the sake of cleanliness, should be renewed every twenty-four hours. The action of the uterus is usually very speedily excited, and, when fully established, the plug may be withdrawn and secale cornutum administered to prevent the diminution of labour pains. The finger may likewise be used to aid the dilitation of the os uteri, but great care must be taken to leave the membranes uninjured. Five cases are related in support of this practice. In four the child was born alive, but in the fifth, in which the breech presented, the infant was still-born. The average length of time which elapsed between the application of the plug and the birth of the child was five days and fourteen hours.—*Medicinische Zeitung, Aug.* 18 and 25, 1841.

British and Foreign Medical Review, January, 1842, *p.* 249.

100.—NEW SUBSTANCE, GRAVIDINE, AS A SIGN OF PREGNANCY. By Dr. Stark.

The fluid portion of the urine of pregnant women being drawn off, there appears a "natural sediment," which, whether held in solution, or separated by ether, has a striking resemblance to the serous globule, but, when in a sedimentary state, bears an equally strong resemblance to the milk globule in recent milk. This substance differs from albumen and caseum, the two animal substances most analogous to it: from the former, in being soluble in water by means of heat; from the latter, in being solu-

ble by sulphuric and nitric acids. From gelatine it also differs: first, in being precipitated from its solution in water on cooling; secondly, though partially precipitated by tannin, the precipitate was soluble in water on boiling. The author calls it "gravidine," both from *gravidus*, big with young, occurring as it does in pregnant women; and also from *gravis*, heavy, seeing that it falls to the bottom of the vessel. Kiestein is but the pellicle which results from the decomposition of gravidine. As the globules forming the latter substance are decomposed, urates and purpurates are developed in the urine; and when these have broken up and assumed new combinations, the triple phosphates appear, with that beautiful crystaline appearance described by Dr. Bird as one of the characteristics of kiestein.—*Edinburgh Medical and Surgical Journal*, No. cl. *Jan.* 1, 1842.

British and Foreign Medical Review, April, 1842, *p.* 571.

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

101.—ON THE SECRETION OF TUBERCLE.

By Thos. Hodgson Watts, M D.

[One of the most interesting papers which we have lately perused, is this by Dr. Watts, on the above subject. We will endeavour to give an analysis of some of its contents, but cannot pretend to do it full justice in the short space which we can bestow upon it. It is acknowledged that there is a strong analogy between the secretion from the vascular system, of a morbid matter, and a healthy secretion: and although there are many phenomena which are dissimilar, the process of healthy secretion will, in some measure, guide us to a true knowledge of the secretion of tubercle.]

The first solid compound of vital affinity beyond the boundary of health, is coagulable lymph, which follows in straight succession on the effusion of serosity; and in ordinary circumstances pus is the second. It is between the one and other of the two, that tubercle seems deservedly to occupy a place. The morbid preparation is, to appearance, nearly the same for all of them; and the secretion of each respectively, may go on simply from the mass yet in circulation, or be attended with ultimate congestion of blood of a permanent kind. But beyond this they differ widely. The globule of pus is an orbicular membrane, full of a more fluid matter; and tubercle, with all its points of resemblance to the former in the early periods, and to coagulated albumen, and particles of fibrine in the later periods, gradually changes from a fluid to a solid friable mass, only to soften again with the solution of the texture it occupies, resolving into globular bodies of considerable consistence, and sufficiently characteristic. When secreted, so like the product of plasticity, and fully formed, resembling much that of suppuration—it yet attains to neither. It goes progressively through the course of generating, maturing, and softening tubercle; the ultimate symptom of scrofula.

[As it is known that every cachexia disposes to various diseases and inflammation, so we know that tubercle has a particular relationship to its peculiar cachexia, and that a peculiar habit of body is necessary to its production: and as syphilis and scrofula have each their favorite localities, so has tubercle in some measure its peculiar localities, as, for example, the lymphatic system, or the lungs and mucous membrane, or the serous cavities and joints. The appearances in tubercle, as seen by a microscope magnifying 500 fold, are as follow:]

In the maturer form of yellow matter, it presents the most satisfactory appearances. When compressed between the object glasses with a drop of water, it bruises with more or less facility, assuming a milky look, and a part of it composed of globular fragments mixes with the fluid. The entire mass appears granular in the microscope, and of a light sienna colour. The borders are irregular, jagged, and broken, and many projecting fragments about to separate themselves, are apparently attached to it by softer and more elastic matter, resembling in some measure a connecting tissue. This is not unlike what we have seen uniting the particles of fib-

nuous substance, which joins the fibres of muscle previously boiled. At an early stage, this softer material of union is less remarkable, because of the greater homogenity of the morbid matter. When, however, it approaches towards softening, the connecting tissue grows more elastic and apparent, but to disapper ultimately in leaving innumerable globular bodies.

These are the gum-like globules described by us in a preceding essay, and they resemble broken portions of a friable mass. They have some features in common with broken morsels of fibrine well cooked. The chemical reactions also are almost alike. They vary in volume from minute particles to morsels as large as, and larger than the globules of pus. Frequently two, three, four, or more of them, closely united, mix with the rest. They are all transparent; some of them have a uniform or smooth surface, others have a rougher broken appearance, and a good many present black points not unlike those of the globules of pus.

The normal fibrine of the healthy body, and of coagulable lymph, bears in it a vital property of organisation, into fibre, tissue, and vessel. But the globular bodies of tubercle go on progressively completing themselves, even at the cost of neighbouring organic textures, which ultimately soften and dissolve.

The gradual transition of tubercular secretion into concreted tubercle, and finally into yellow matter, and the globular mass of softening, is highly interesting to the speculative inquirer into disease. It seems that tubercle, when formed by secretion, must pass through a progressive alteration of aspect; and this is perhaps effected by a gradual change of its integral composition. This change follows, in all probability, in obedience to laws similar to those of catalysis familiar to the chemist.

However, it is scarcely possible to prove positively the transition of tubercular secretion into yellow matter, and mature tubercle; but a strong case of reason can be made out in support of it. We see tubercle in every variety of condition, from newly eliminated secretion, to grey, white, yellow, and soft matter; and it is not too much to believe that it may go through these forms, in gradual progression, to what is clearly its terminal state. It is beyond a doubt yellow tubercle is not formed at once, but requires an interval of some time for entire developement. This period is of variable duration, but probably always longer the more purely has been its origin in secretion. The alteration of appearance must be considerable and manifold in the maturation of tubercle; and, as the simple way of estimating them, we should regard the many varieties of tubercular matter as representing faithfully the successive steps of this interesting change.

To seek a satisfactory explanation of the transition of tubercular secretion into the yellow globular mass, would be a vain endeavour; but we may make curious observations enough, which render it familiar and comprehensible. If we steep a grey granulation, of comparatively recent formation, in distilled water, its transparency is lost to appearance, and, becoming blanched, it resembles outwardly one of older date, or greyish-white tubercle. The ultimate composition, however, is not altered in equal measure. Again, a portion of firm tubercle, kept during hot weather in water occasionally renewed, softens and approaches nearer to the quality of yellow matter. It is compressed more readily by the object glasses, and separates into globular fragments, like those of softening matters in cavities. They are not, however, wholly identical, being analagous, but not perfect in the entire of their characters. Modifications such as these, of which tubercle is susceptible in so short an interval by management of its physical relations, leave us to comprehend those others of tubercular transition which are only perfected after some time in a laboratory, such as

the diseased organ of the living body. It is, however, impossible to accomplish the several steps of tubercular transition by any composition of physical means, in so far as our experience goes.

Elsewhere we have sought to prove that tubercle forms by secretion, and also not seldom by direct conversion of blood permanently coagulated in the vessel. Secreted tubercle is, however, its general form, while the transition from coagulation happens when tuberculization goes on in common with accidental disease. We have already enumerated some of the powers which, in our opinion, are engaged in the function of secretion, and return again to this interesting inquiry. There are four powers at work more especially in the secretion of tubercle, which eliminate it from the blood, and these are the tuberculizing affinities of the capillary, its power of imbibition, the force impelling onwards the fluids in circulation, and, fourthly, the formation of tubercle without the vessel.

The power that elaborates tubercle from the blood belongs to the capillary, and we conceive it to be nothing short of a morbid alteration of those affinities, by which vitality forms the varied secretions of health, but in particular those of nutrition. The chief elements of animal matter are fibrine, gelatine, and albumen, how various soever may be the organic forms they assume. Coagulated lymph is one of the simpler products of morbid changes, and preserves enough of organizable properties to become tissue, fibre, and vessel. Tubercle is a farther alteration of disease, and, although of analogous parentage, is not thus organizable; and pus is still more remote. Lymph is produced by the first of the series of deviations of the vital affinities from the normal order of health, which eliminate fibrine for secretion from the blood. Fibrine is required almost everywhere in nutrition; and likewise, the exudation of lymph is nearly as general, although accidental in its site. The affinities of tubercular composition are another variety of morbid changes like those of fibrine, but so very complete and remote, and preserving so little of the usual organizing properties as to be in no manner fit to prepare an organic matter of equal character. However, a very slight tendency still remains with it for a cellular arrangement, seen in the quantity of adhesive matter which binds intimately together the mass of globular concretions in mature tubercle. Were we to give a scale of degrees of morbid alteration in these cases relatively to one another and to healthful function, we would regard the forces forming coagulable lymph in the proportion of two, tubercle three, and pus four; these figures would represent the deviations from health of the vital affinities which eliminate fibrine from the circulation for the various purposes of the economy. Measuring, therefore, the series of changes in the case of three such common morbid alterations of the vitality, we compare them to the process of healthful nutrition estimated as one.

We look upon the capillary as a little laboratory of secretion, whether for nutrition or excretion, or the lubrification of tissues and membranes. But it is the laboratory of vital affinity, and notwithstanding we cannot appreciate the peculiarities of the vitality productive of substances of such various aspects, still its power is evident in what it produces. This power of collecting the elements of secretion, conveniently placed in the capillary, is the first cause of this important function. It eliminates them from a mass where many influences are at work, and forming them into the material proper to the locality, attracts the secretion in embryo to the vascular wall, a position both favourable and necessary for its passage outwards. If it were not so, even if we could suppose the secretions already in the blood, they could neither be separated pure from the vessels, nor on their proper sites, unless a suitable mechanism of the capillaries provided for its evacuation, as various as the material to be voided.

But no provisions either of a mechanical or purely physical nature can possibly answer these purposes. They are accomplished by several means, and the vital affinities form the hinge of the whole.

The power of imbibition of the capillaries is most useful in secretion. To perform this function a vessel is requisite, which can assist exudation outward of blood, and balance the impulse of the circulation. The globular constitution of the blood, making it a mass of solid but elastic particles, that cannot escape except through an opening of proportionate size, and, on the other hand, the uniform and compact membrane of the capillary devoid of perceptible pores, answer those purposes admirably. The preservation of the blood within the vessel, securing thus far its proper circulation, brings the material of secretion and nutrition to every point where the vital affinities, according to local peculiarity, perform the part of a laboratory. The capillary affinities attracting the matter of secretion on to the vascular wall, bring it into most suitable circumstances to pass outwards. It is at this period that a membrane imbibing as readily as the capillary, is of indispensible value, sufficing to imbibe moisture, to preserve every fibre and tissue soft, humid, and supple; it must now of necessity, take up the secretion special to the locality and already attached to the capillary. An imbibing membrane, even without vissible pores, assures a passage to secretions in the state of fluid, and enables the power propelling the circulating mass to aid efficiently in their evacuation from the vascular apparatus. Wherever passage is given to fluid by imbibition simply, there also it may be expressed, and the escape of it may be increased by any force we apply short of rupturing. When the vital preparation is complete for secretion, and the embryo liquor besmears the interior of the capillary, and this has imbibed it through, then secretion may go on easily. An outlet once formed, it is afterwards voided with facility outwards by the pressure of the column of circulating fluids, and it is nothing impossible that the capillaries accommodate themselves more, by degrees, to the passage and evacuation of a morbid production, its elimination becoming more like healthy secretion. This is seen in the dryness of a newly inflamed membrane, which, even when quite bloodshot, requires some interval to prepare for morbid secretion, that at length flows freely and in plenty. Besides, old constitutional evacuations proceed at length so calmly as to resemble very much the secretions of healthy organs. The mechanism of secretion becomes so perfect in the part as to afford equal facility for morbid deposition, as that of the liver does for the evacuation of its bile.

[No doubt the propelling force of the circulation is an important aid to secretion, and so likewise is the distended state of the capillary. By these means its tissue becomes, as it were, stretched and more open, so as to permit the egress of its contents.]

The earliest form of tubercle, in an uncombined state, met with in the corpse, is the grey granulation when newly deposited. This body is secreted as a somewhat clear fluid, which, increasing gradually in consistence, concretes into a tough, and lastly, friable mass. The most recent examples of it we have seen were minute greyish bodies, like grains of millet seed, scattered throughout the spleen of tuberculous infants. They were about the consistence of gluten of grain. If we enquire farther what may have been their appearance at an earlier period, a fair means of settling the question will, perhaps, be to refer to the vesicles of scrofulous ophthalmia, which are not seldom followed by condylomatous growths, resembling much punctiform tubercle.

Originally, therefore, they are of a glutenous, fluid nature, more or less consistent, which only becomes firmly solid in process of time. Probably

also the same quality of thing is secreted, when the deposition of tubercle befalls larger portions of the frame, and when infiltration takes place into the substance of any part, or from a secreting surface. Once having attained the exterior of the capillaries by means of other conspiring powers of secretion, it loses partially the fluidity which characterised it as liquor of secretion, whilst passing through the vital laboratory of the vessels.

[And the very circumstance of the tubercular matter becoming concreted, leaves the outer surface of the vessel more free for the egress of fresh matter, which would not be the case, were the liquor of secretion to be always smeared over the capillary: and, moreover, this concretion prevents the ready absorption of the matter into the circulation. The absorption of tubercle, however, without a previous chemical change, is not easily conceivable, and it is probable, that if this ever does occur, it is only in its recent state.]

Dublin Journal of Medical Science, March, 1842, *p.* 1–40.

102.—ON THE USES OF THE LIVER.

By John Bostock, M.D., F.R.S., &c.

[In Article 111 of our last Retrospect (No. IV.), will be found a very interesting explanation of the uses of the portal circulation, by Dr. R. Willis, in which he arrives at the ingenious conclusion, that "it is a contrivance, a most admirable contrivance, to economise arterial blood." Dr. Bostock says that the remarks of Dr. Willis were read by him with much interest: especially, as they coincided with some of his own views on the subject. He says:]

When we take a general view of the animal economy, and especially, when we enquire into the relation which its different functions bear to each other, although we must consider the whole of them as bearing their part in maintaining the system in its perfect state, yet there are some which would appear to be more immediately essential to its existence; among these, we regard that series of actions by which the materials of which the body is composed are received into the stomach, and after experiencing the necessary change in the appropriate organs, are finally deposited in the blood, constituting the respective functions of digestion, chylification, and absorption. The matter thus deposited in the blood vessels is destined to supply the demands of the system in the processes of growth and nutrition, as well as for the reparation that may be required, either from the effect of natural decay, or from accidental injury. Now in order that there may be at all times sufficient materials to supply every contingency, there must in most cases be a superfluity, and it therefore becomes necessary that there should be some regular mode of discharging this superfluous matter. The elements which enter into the composition of one aliment, and which, after due elaboration, are deposited in the blood, may be considered as essentially consisting of carbon, azote, hydrogen, and oxygen; and with respect to at least the three first of these elements, a distinct organ is provided for the removal of any superfluous quantity of them which may exist in the blood, after supplying all the wants of the system. The processes by which this removal is affected, and which may be styled *depurative*, are performed for the three elements respectively, by the lungs, the kidneys, and the liver.

With respect to the lungs, I may remark that this organ affords a beautiful illustration of that admirable system of adjustment and contrivance, which forms so conspicuous a feature in the animal economy. We con-

ceive the primary and specific object of the respiration to be the evolution of caloric, an effect which is produced by the union of a portion of the oxygen of the inspired air with a portion of the carbon of the venous blood. Now, this combination of oxygen and carbon, by which heat is liberated, constitutes one of the depurative processes; and it is the one which is the most essential to the well-being of the system; for the excess of carbon, which affords the fuel for the "slow combustion" in the lungs, were it to remain in the blood, would render it totally unfit for performing its appropriate functions, or even for the temporary continuance of life.

The second of the depurative processes, that by which the superfluous azote is removed from the blood, is effected by the kidney. The removal of this element proceeds upon a somewhat different principle from that of the carbon. We are not aware of any immediate injury or deleterious effect which the excess of azote produces upon the system, and, therefore, it was not necessary that the whole of the blood should pass through this purifying organ; hence a comparatively small portion only of the blood is carried to the kidney, which secretes or separates from it the highly azotized substance, the urea. With respect to the circumstances which promote the action of the kidney, we may conjecture, that it will be excited by the nature of the fluid that is conveyed to it, and that, when the blood has any of its constituents in undue proportion, it may possess a stimulating quality, adapted to increase the secretion of the urea. And besides the urea, the kidney appears to be one of the great outlets, by which the system is freed from any superabundant water which it may contain, and is thus peculiarly well adapted to carry off all the urea which is generated, as well as any excess of saline matter which may exist in the blood. The kidney may, indeed, be regarded as a kind of secondary cloaca; the intestinal canal being the channel for carrying off the residual part of the food, after the separation of its nutritive matter, while the kidney discharges the heterogeneous substances which have been received by the blood-vessels, but which, being no longer required, or having performed their appropriate functions, are to be regarded as residual. And with respect to the discharge of water from the system, we have here another example of that plan of compensation, on which we have already had occasion to remark. A quantity of aqueous vapour is exhaled from the lungs, which is increased or diminished according to the temperature of the atmosphere, and various other circumstances, external and internal, but when it is not carried off by the lungs in due quantity, the superfluous fluid is discharged by the kidney.

The third of the depurative processes, that by which the superfluous hydrogen is removed from the blood, is effected by the liver, but by a different arrangement from that employed either in the lungs or the kidney. In the case of the liver, it is only a comparatively small portion of the blood which is conveyed to the organ for the purpose of purification, thus differing from the analogous operation in the lungs, while it also differs from that in the kidney, by receiving venous, instead of arterial blood. Although it may be difficult to assign any reason for this arrangement, which can be considered as more than conjectural, yet we may form some speculations on this subject, which are, I conceive, at least plausible. The blood, after passing through the pulmonic circulation, is sent into the great systemic arteries, purified from its superfluous carbon. The superfluous azote, and the various saline substances are next removed by the kidney, after which the whole of the blood is returned from all parts of the body and conveyed to the great venous trunks. A portion of this blood is carried to the liver, which organ, like the lungs, exercises a double function; the blood is freed from a quantity of superfluous matter, while, by this depurative process, a substance is generated, into the composition of which

hydrogen enters in considerable proportion, and which is essential to the proper action of the digestive organs. I agree with Dr. Willis in the opinion, that the selection of any particular portion of the venous blood depends entirely upon the anatomical relation of the parts, and not upon any chemical difference in the nature and quantity of its constituents. And we may here remark upon the compensating power of the liver. When, from any cause, a less quantity of carbon is required for the evolution of heat in the lungs, than is consistent with the healthy constitution of the blood, the liver would appear to be the organ by which this irregularity is rectified, by an increased secretion of bile. We have thus an additional provision made in the arrangements of the system to prevent an undue accumulation of carbon, an element which, when it exists in excess, appears to exert a positively deleterious influence. But with respect to azote and hydrogen, the case is different. Although we must conceive that an excess of these elements is more or less inconsistent with the maintenance of the healthy state of the system, yet it is not so immediately injurious, and we consequently have no compensating organs by which such excess may be removed, in defect of the due operation of the kidney and the liver.

With respect to the oxygen, there appears to be no depurative process by which it is removed from the blood. Probably the continued expenditure of this element, in almost every operation of the system, when either the muscles or the nerves are called into action, may prevent its undue accumulation, and even should we admit of the existence of a hyperoxygenized state of the blood, we are not aware that any immediate evil would result from it. We may also conjecture, that when the blood contains an excess of oxygen, this redundant quantity becomes united to a portion of carbon, so as to form an oxide, which we may conceive to be less deleterious than the carbon in its uncombined state.

London and Edinburgh Monthly Journal of Medical Science, May, 1842, *p.* 403.

103.—ON THE NON-VASCULAR ANIMAL TISSUES.

By Joseph Toynbee, Esq., M.R.C.S., Late Assistant to the Conservators of the College Museum.

Mr. Toynbee, in this paper, which is published in the Philosophical Transactions for 1841, starts with the observation that it is now generally acknowledged, that the process of nutrition in most animal tissues consists in changes undergone by the nutrient liquor sanguinis, which has exuded into them through the coats of the capillaries ramifying throughout them. The vessels themselves vary in number in different structures: in muscle, the capillaries are very numerous, and the spaces between them very small; whilst in tendon and ligament, on the other hand, the latter are comparatively large; but in all structures, whatever may be the degree of their vascularity, the tissue the furthest removed from the vessel is nourished equally well with that which is in immediate contact with it.

In all vascular structures, therefore, there is of necessity a considerable extent of tissue which is nourished without being in contact with blood-vessels, and the knowledge of this fact forms a necessary introduction to the study of the process of nutrition in those organs, into which, whilst in a healthy state, anatomists have never succeeded in tracing blood-vessels. The organized tissues, constituting such non-vascular organs, may be divided into three classes.

The first, comprehending articular cartilage, and the cartilage of the different classes of fibro-cartilage;

The second, the cornea, the crystalline lens, and the vitreous humour;

The third, the epidermoid appendages, viz. the epithelium, the epidermis, nails and claws, hoofs, hair and bristles, feathers, horn and teeth.

Mr. Toynbee's endeavour is to prove that no vessel ever enters these tissues when they are perfectly developed, and in a healthy state, and to demonstrate the manner in which they are nourished.

Mr. Toynbee adopts the following line of argument.

In the first place, no anatomist has ever been able to trace vessels into these tissues in the adult healthy state; Secondly, he thinks that the due action of the organs, into the composition of which these tissues enter, is incompatible with vascularity; in other words, that the presence of blood-vessels within them is a sign of disease.

The first class, for instance, of the non-vascular tissues, comprising cartilage and fibro-cartilage, is subject, from its situation in the joints, &c., to repeated concussions, and to constant compression and attrition, which, in these unyielding tissues, would necessarily be destructive of the integrity of blood-vessels.

Those of the second class are required to be perfectly transparent for the due transition of the rays of light, which would be impossible if the circulation of a coloured fluid were carried on throughout their substance.

The tissues of the third class are unceasingly exposed to friction, laceration, and incision; and hence, of course, it is necessary that they should not be traversed by vessels.

Mr. Toynbee's injections have proved to him that the vessels which previous anatomists had traced no further than their circumference (supposing them to be continued into these tissues, either as serous vessels, or as red blood-vessels too minute for injection,) actually terminate in veins, without the limits of these tissues. The terminations of these vessels in the immediate vicinity of the non-vascular tissues, present certain convolutions, dilatations, plexuses and other peculiarities, which differ in various parts, but in all instances enable a large quantity of blood to circulate slowly in the neighbourhood of these tissues, from which it may be inferred that they are subservient to the nutrition of the latter; and their existence certainly constitutes another argument against the presence of vessels within them.

All these non-vascular tissues contain corpuscles or cells, of which some of them are almost entirely made up; while in others, as the cornea, a few only are present.

Mr. Toynbee refers to the researches of Schwann, &c., on the cells of animal tissues. These cells are modifications of two principal forms, the one being either round or oval, the other compressed in the form of a scale; and their existence in one of these two forms has lately been detected in most organs of the body.

In a circular form they appear to be the principal components of bone, cartilage, muscular and nervous fibre, and of the parenchyma of glands; in the form of a flattened cell or scale, they constitute the epidermis and its appendages, the epithelium of mucous and serous membranes, and of the inner tunic of the vascular system.

Mr. Toynbee agrees with M. Schwann that these cells have vital actions, and, he thinks, not only during developement, but afterwards. He ascribes to them the function of circulating, and of perhaps changing the nature of, the nutrient fluid which is brought to the circumference of the solid non-vascular tissues, and he believes them in some measure to compensate for the absence of the internal vascularity possessed by other structures. The only difference, in fact, which appears to him to exist between the mode of nutrition in the vascular and non-vascular animal tissues is, that *the former* derive their nutrient fluid from the blood which circulates through the capillaries contained in their substance; and that *the latter*

are penetrated by the nutrient fluid which exudes from the large vessels by which they are surrounded; and that its distribution through them is assisted by the vital properties of the corpuscles which they contain; in *both classes*, the particles of which the tissues are composed attract from this fluid the elements which nourish them.

Of the Cornea.—Mr. Toynbee first notices, to dispute, the statement of Muller, that the cornea has no corpuscles. Some of them are rounded, others are oval, and have fine branches radiating from them, similar to the osseous and pigment corpuscles. These cells are surrounded by the bright fibres of which Muller has spoken; these fibres, which compose the larger portion of the cornea, are laxly connected together, so as to have some analogy with cellular tissue: the substance of the cornea being of a loose texture, and easily pervaded by fluids. Mr. T. thinks that this easy penetration prevents the necessity for as many corpuscles in this as in the denser tissues.

Mr. Toynbee next describes the vessels which nourish the cornea, previously noticing the opinions of Boyer, Cruveilhier, Jacob, Lawrence, Romer, Tyrrell, and Wardrop. Mr. Toynbee then goes on to state:—

In an eye which is injected with tolerable success, the white sclerotic membrane will be observed to be traversed by two sets of vessels. One of these consists of small and numerous branches, which have a straight direction towards the circumference of the cornea. These are the ultimate branches of the sclerotic arteries which course towards the cornea. The other set of vessels is composed of the large and tortuous trunks which are seen with ease by the naked eye; these are the sclerotic veins, which take a retrograde course to the arteries just alluded to, and become gradually larger as they get more remote from the cornea; these sclerotic veins return the blood devoted to the nutrition of the cornea.

Upon examining *the arteries* with a magnifying glass, they will be found, at the circumference of the cornea, to terminate in two sets of vessels; of these, one is superficial, and consists of delicate branches which pass inwards over the surface of the cornea, between it and its mucous covering, and are analogous to the vessels of joints which pass between the articular cartilage and the synovial membrane. The other set of vessels in which the sclerotic arteries terminate, are much larger than those just noticed, and are more like the continuation of their trunks; these, at the circumference of the cornea, pass into the substance of the sclerotic, where they come in contact with the attached margin of the cornea.

The *superficial or conjunctival* arteries, upon arising from the sclerotic, take a course parallel with the circumference of the cornea, and are sometimes so long as to receive the name of its circular vessels: from these, branches are given off which pass in a direction towards the centre of the cornea. These, after division and sub-division, form a minute plexus on the border of the latter, and they terminate on its surface from one-eighth to half of a line from its circumference, by becoming continuous with the venous system, in several modes.

The small *veins* which arise from the arteries take an opposite course to the latter, and upon reaching the margin of the sclerotic, they empty themselves into the large tortuous veins, which have been noticed above, just as the latter are emerging from the substance of the sclerotic, where it is attached to the cornea.

The *deep or sclerotic arteries* of the cornea are those from which this structure derives its chief nutrition. They are large enough to be considered the continuation of the trunks of the sclerotic arteries; they pass without much diminution of their size towards the point where the sclerotic membrane is continuous with the cornea. At the margin of the latter they suddenly stop and turn back, forming loops; sometimes with, and

at other times without dilatations, they become continuous with the veins. These veins emerge from the substance of the sclerotic, close to the margin of the cornea, at which point they receive the conjunctival veins: and they take a backward course, and form those tortuous veins which have already been noticed.

But, in disease, the marginal vessels of the cornea are prolonged through its substance, while those which, when healthy, extend over the surface of the cornea from the one-eighth to half a line, in disease form a band of considerable extent.

The Crystalline Lens.—M. Schwann thinks, that the lens is at first composed of cells, which are afterwards converted into fibres. Mr. Toynbee has not only found cells interspersed among its fibres, but has frequently seen the fibres themselves composing the external part of the lens, made up of these cells; and in other instances they occupy the margin of the fibres only.

Speaking of the *blood vessels* of the lens, Mr. Toynbee says—"I have not only been unable to trace vessels into the anterior capsule, but I hope to prove that in the healthy state no vessels do enter it. The posterior capsule of the lens is, however, injected with facility, and contains large and numerous ramifications of blood vessels; I ascribe to them the function of supplying the crystalline lens with a nutrient fluid. These vessels arise from the arteria centralis retinæ; the latter, having traversed the centre of the vitreous humour, expands upon the capsule, and forms the ramifications just noticed. Now, in some injections which I have made of the eyes of a human fœtus, of the sixth or seventh month, these vessels were not confined to the posterior surface of the capsule; they pass round its border and extend upon its anterior face to the extent of one quarter of a line. I have not been able to make a perfect injection of the vessels of the capsule of the lens in ages antecedent to the fifth and sixth month of the fœtal life, and therefore am unable to say whether, in the very early periods of developement, the anterior capsule, like the membrana pupillaris, is entirely traversed by vessels; the crystalline lens would under such circumstances, be completely surrounded by blood vessels.

The branches of the arteria centralis retinæ in the early periods of life, as noticed above, extend upon the anterior surface of the capsule. Immediately as they reach the latter they become straight, run parallel with each other, and are directed towards the centre of the anterior surface for the distance of a quarter of a line, when they stop in their course and form looped dilatations, which give origin to small veins. It is most probable that these vessels recede at subsequent periods of developement, so as to leave the whole of the anterior surface of the capsule capable of being permeated by the rays of light. These vessels, in a diseased state, are sometimes prolonged into the whole of the anterior capsule, (or to speak with more propriety, the anterior half of the capsule,) where, in morbid specimens, they have been injected by Schroeder Van der Kolk The capsule of the lens is thus pervaded by large and numerous ramifications of blood vessels, which I believe pour out upon its inner or lenticular surface a nutrient fluid; this *fluid will immediately come in contact with* the mass of delicate cells described by Schwann as situated between the lens and the capsule." Mr. Toynbee supposes that the nutrition of the lens is effected by these cells receiving the elements of the blood, and conducting them to the lens, through which they are diffused.

Vitreous body or Humour.—The membrane of the vitreous humour is very delicate, and interspersed with corpuscles.

The arteria centralis retinæ passes through the vitreous body, but Mr Dalrymple alone has succeeded in injecting from it the periphery of the hyaloid membrane.

Mr. Toynbee is inclined to think that the ciliary processes have the function of nourishing the vitreous body. "I have succeeded," he says, "in making very minute injections of the vessels of the ciliary processes, the disposition of which is remarkably beautiful; they have been most accurately delineated and described by Zinn. I have particularly to allude to the immense quantity of blood that their large size allows to be continually circulating through them, and to their plexiform character, which is productive of a slow circulation of the fluid they carry. At the free border of each ciliary process is a large single vessel, which is received into the base of the sulcus of the vitreous humour and is in immediate contact with it. When it is remembered that the investing membrane of the vitreous humour is very delicate, and that it is made up of cells or corpuscles, and that it has in immediate contact with its free surface these large and numerous vessels, they may perhaps with great reason be considered as the organs of nutrition of the vitreous humour, by eliminating a nutrient fluid which penetrates into, and is diffused through the substance of the latter.

Medico-Chirurgical Review, April 1842, *pp.* 426–438.

[We would strongly recommend those who have not read this interesting account of Mr. Toynbee's researches, to do so immediately. They will be found much more at length in the Medico-Chirurgical Review for April.]

We find that our space will not allow us to enter further on several interesting articles on Anatomy and Pathology; and we must therefore be content with referring the reader to such as are most valuable. We have published almost every article of value in the different practical branches of Medicine, Surgery, and Midwifery, and we feel at liberty, therefore, to omit many articles on Anatomy, &c., in order that we may find space for more interesting and practical information. The papers which we intended publishing are the following, and to which, if convenient, we would advise the reader to refer if he wish for further information on the subject:

104.—On the Nervous Ganglia of the Uterus. By Robert Lee, Esq., F.R.S. *Medical Gazette*, Jan. 21, 1842.

105.—On the Prognosis regarding Affections of the Portio Dura. By Dr. Graves. *Dublin Journal of Medical Science*, Jan. 1842.

106.—On Albuminaria, or Bright's Disease of the Kidney. By Dr. Graves, Dublin. *Ibid.*

107.—On the Membrana Decidua. By Dr. Sharpey. *London and Edin. Monthly Journal of Medical Science*, Feb. 1842.

108.—On Animal Heat. By Francis T. Richardson, M.D., Edinburgh. *Ibid.*

109.—On the Corpuscles of the Blood. By Martin Barry, M.D., F.R.S.L. & E. *Ibid. Jan.* 1842.

110.—On the Transmissibility of Cancer. *Gazette Medicale*, and *American Journal of Medical Science, Oct.*, 1841.

111.—On the Sounds of the Heart. By M. Cruveilheir. *Medico-Chirurgical Review, Jan.*, 1842.

112.—On the Position of Images in the Eye. By H. H. Broughton, Esq., Dobcross. *Provincial Medical and Surgical Journal*, Dec. 25, 1841.

113.—On the Extreme Ramifications of the Minute Arteries and Veins of the Coats of the Intestines. By Dr. Gaddi, of Modena. *Dublin Medical Press*, Nov. 10, 1841.

114.—On the Structure and Use of the Malpighian Bodies of the Kidney, with Observations on the Circulation through that Gland. By W. Bowman, Esq., F.R.S., &c. *London Lancet*, April 16, 1842.

115.—On the Operation for Spinal Curvature. By G. P. Childs, Esq. *Medical Gazette*, Jan. 14, 1842.

116.—Observations on the Treatment of Hare-Lip. By John Austin, Esq., M.D., F.R.S. &c.

117.—Additional Facts Regarding the Structure of the Liver. By M. Ernest Lombron. *Edinburgh Medical and Surgical Journal*, Jan., 1842.

118.—Successful Ligature of the Primitive Carotid Artery for an Erectile Tumour of the Orbit, and Results of Experiments made upon Animals with a view to shew the Influence Exercised upon them by Ligature of this Vessel. By M. Jobert. *American Journal of Medical Science*, Oct. 1841.

9.—Fatal Stab of the Brain. By Dr. Keyl. Regimental Surgeon. *British and Foreign Medical Review*, Jan. 1842

RETROSPECT.

No part of practical medicine has been more discussed than have Percussion and Auscultation: and no branch of our studies has been attended with more important results than the almost certain knowledge which we can now possess, in any individual case, of disease of the chest. At the same time, we must confess, that in our own profession, there are more practitioners ignorant of the most modern views on these subjects, than are the members of most other professions of the recent advances in their particular avocations. There may seem to be an apparent complexity in making ourselves acquainted with the multiplicity of sounds in examining a healthy or diseased chest, but all these different kinds of sound may be resolved into very few, and after that is done, a good deal will depend upon the assiduity of the practitioner in perfecting himself in the detail. The French practitioners seem to take a delight in drawing as many fine distinctions as possible, in order to display that accuracy of diagnosis which they certainly possess in a very superior degree, but which is too frequently practised to the exclusion of the still more important duty of treatment. We would say of the French and British practitioners, that the former take most delight in finding out the nature of an affection, and the latter, in curing it. A patient may go to Paris to have his disease accurately diagnosed, but he must return to London to have it cured. These observations are chiefly drawn from us after the perusal of the very practical Lectures by Dr. Watson; in which, he has done a good deal to simplify the study of the diseases of the heart and lungs. Some of the most important of his observations on this subject will be found at the commencement of this volume. (*Art.* 1.)*

We are glad to perceive greater attention paid by manufacturing chemists, to the preparation of different extracts in common use; but unless the practitioner has confidence in the integrity of his druggist, and can depend upon his judgment and skill in the selection of his plants, and in the preparing of them for use, we are convinced that the sale of these, as well as of all the other drugs which can be, and which are so extensively adulterated, will be considerably limited. For example, how different is the effect produced by some extracts of dandelion to that of others; and yet, when properly prepared, we are persuaded that it is a valuable remedy in many hepatic affections. We have given the opinion of some celebrated practitioners as to its uses; and we should be disposed to think, with Dr. Wilson Philip, that when the extract of dandelion is properly prepared, (and if not so, the root itself taken in infusion), it will be found a valuable remedy in those affections of the liver in which we are too apt to give repeated doses of mercury. Perhaps a combination of taraxacum, with the nitro-muriatic mixture, will be found one of the best substitutes for mercury which we possess, and in those constitutions where mercury is inadmissible, this combination will be found invaluable. Dr. Scott was chiefly instrumental in bringing the nitro-muriatic mixture before

* The different figures introduced, refer to the articles in this volume, where the subjects spoken of are more particularly dwelt upon.

the public, somewhat above twenty years ago; but, although recommended by Dr James Johnson, and other eminent physicians, it has never been sufficiently tried in cases of disordered liver and obstinate constipation. The way Dr. Mettauer makes this mixture, is with equal parts of nitric and muriatic acids and water, and of this he gives some six to twelve drops, properly diluted with sugared water, three times a day varying the doses so as to give the largest at noon and at night: of course, the medicine must be given through a small canula of reed, to prevent its action upon the teeth. At the same time, from thirty to forty drops, diluted in two or three times as much simple water, may be applied with a sponge over the region of the liver and epigastrium, and to the insides of the arms and thighs, having previously washed away from the skin, with soap and water, its unctuous secretion, to enable the acid mixture more readily to penetrate. The effect of this remedy will often be manifested in three or four days, when the bowels, previously constipated, will be found to act regularly, and the secretions of the liver to assume a more healthy aspect.

There are many cases of puerperal mania which are owing to an obstinate condition of the bowels, with a collection of morbid secretions in them, which it is sometimes exceedingly difficult to overcome. In these cases, the nitro-muriatic mixture will occasionally be found of great use, and, when used properly diluted and with caution, is a perfectly safe remedy; but it will be found chiefly valuable in these cases as an external application, in the way just recommended, viz., by sponging different parts of the body with the lotion. Dr. Mettauer states, that this medicine is not only useful in hepatic disorders and obstinate constipation, but also in uterine affections of a sub-inflammatory nature, in some of the forms of external scrofula, and in nearly every variety of pseudo-syphilis.

The nitro-muriatic mixture seems especially adapted to those cases "which are based in chronic inflammation or engorgements of the capillary and parenchymatous structures of an indolent nature, either as the primary pathological condition of these structures, or the consequence of inflammation." And in this view it resembles in a great measure the action of mercury. In cases which are decidedly inflammatory, the use of this mixture is not to be recommended; as a general rule, it must never be used in *acute* diseases, on account of its power of exalting the action of the economy, and only in *chronic* affections with very slight febrile disturbance. Some have attributed the effects of this medicine to the presence of chlorine, as Dr. Mattauer found very similar effects from a solution of chlorine in water. If, therefore, this remedy be tried in combination with the taraxacum prepared by Mr. Houlton, we shall have an agent of remarkable efficacy in many chronic affections of the abdominal organs. "M. Polex has extracted from the milky juice of the Leontodon Taraxacum, a crystallizable substance which he has designated Taraxacine," but we are not aware of any advantage to be derived from its use, more than from the use of the common preparation. (2)

It seems now generally acknowledged, that the phenomena attending a fit of asthma are to be attributed to spasm—to a spasmodic action, especially of the different fibres which encircle the air-tubes, and which may be distinctly seen, when hypertrophied, encircling the larger bronchi, and which have been traced by Reisseesen in tubes of a very small diameter. Laennec states that he has seen them in tubes less than one line across. Some anatomists doubt their muscularity; but we must attribute to them the action of muscles, and suppose that they are slender muscles like those which surround the intestines and urinary bladder; this view is corroborated, not only by the experiments to prove the contractility of the lungs and air-tubes, as mentioned by Dr. Watson, but also by the circumstance mentioned by Valentin, who found that the rings of the trachea could be

made visibly and distinctly to contract, by irritating the par vagum. A fit of asthma, therefore, may be considered a spasmodic affection, during which it is very difficult to inflate the lungs: hence, the respiratory murmur is generally absent. An ingenious method of expanding the chest, in cases of spasm, is that recommended by Mr. G. Robinson, who orders the patient at the end of every inspiration, or just before he is about to empty his chest, to close his nostrils and mouth so as to prevent the act of expiration; the patient will be instantly compelled to inspire again, when the fingers are withdrawn from the mouth and nose, and thus the chest will be effectually expanded. But this practice is not yet sufficiently corroborated by the experience of other practitioners, to allow of full confidence being placed in it; it may, however, be tried with impunity. Narcotics, perhaps, are our best remedies:—opium is generally used in one form or another, but some patients place the greatest reliance on stramonium, provided that it be taken at the very commencement of the attack; but if the spasmodic action be once fairly established, neither stramonium nor any other anti-spasmodic will have a very powerful effect. Perhaps the Lobelia Inflata will be found a valuable addition to our remedies, not only from its possessing the soothing properties of tobacco, but from exciting that copious expectoration, which is sure, in many cases, to give relief. (4.)

Some years ago, Mr. Bates, of Sudbury, published a pamphlet on the treatment of peritonitis by opium, which made a great impression on the minds of many practitioners. His treatment consisted in keeping the intestine perfectly quiescent during the inflammatory action: but the judiciousness of the opium treatment must frequently be called in question, especially when uncombined with calomel; but in those severe cases where ulceration and perforation are strongly apprehended, the opium treatment is invaluable. To keep the bowels perfectly quiet for several days together, allows nature an opportunity to agglutinate one portion of the intestines to another, and by this means to place a barrier to the escape of fæces into the peritoneal cavity. Dr. Stokes truly remarks, that these cases sink with awful rapidity, and give no time for active treatment: mercury and purgatives would excite the bowels so as to *tear asunder* the newly formed adhesions. In ordinary peritonitis, however, it would not be advisable to pursue this mode of treatment, but to combine it with bleeding and calomel, as recommended by the best authors. Dr. Stokes gives some excellent cases, to show the value of the opium treatment. In one case which recovered, 105 grains of opium were given, besides what was administered in injections; and he alludes to another case which was successful from the same treatment, where peritonitis had supervened upon the bursting of an hepatic abscess into the cavity of the abdomen. (6)

We have lately had a case of poisoning by arsenic completely prevented by the administration of the hydrated peroxide of iron, as recommended in our former volumes, and we shall rejoice if the same success attends the administration of gold leaf and iron filings, in cases of poisoning by corrosive sublimate. The combination of these two substances has been found, by Dr. Buckler, of Baltimore, to form a galvanic antidote to this poison, which has some ground for confidence, although it will require more evidence to establish our opinion of its complete efficacy. All the compounds of mercury are more or less poisonous, but none more likely to be so than the corrosive sublimate or bichloride, on account of its being introduced so much in the process of tanning and to prevent the decay of timber, as well as in the destruction of insects; thus exposing individuals to the danger of introducing it accidentally into the stomach. Gluten and albumen have hitherto been our chief antidotes, especially albumen, which changes the corrosive sublimate into calomel, and thus renders the patient

liable to very severe salivation, which, of itself, is attended with inconvenience and even danger. Dr. Buckler, amongst other experiments, found, "that by throwing gold dust into a solution of mercury, no action took place till iron-filings were added, when the metallic mercury was at once revived, and was seen to precipitate in a state of amalgam with the gold; at the same time, the oxygen from the corrosive sublimate goes over to the iron, and forms an oxide of that metal with which the chlorine combines, leaving a hydrochlorate of iron in solution."

The result is a complete decomposition of the poison. Two grains of gold and two of iron are sufficient to decompose five grains of corrosive sublimate. Dr. Buckler gives a minute account of his views and experiments on the action of this antidote in living animals, to which we refer the reader. Mr. Barry thinks that Dr. Buckler's discovery may prove exceedingly important; but seems to disagree with him on some parts of the question. He is of opinion that the decomposition is owing "to the thin stratum of fluid immediately enveloping the two contiguous particles of iron and gold;" and, therefore, that "it is essential that these metals should be in a state of division so exceedingly minute, as to remain a short time in *suspension throughout the whole fluid of the stomach.* Every drop of that fluid must be made to contain a multitude of these particles, and yet the entire weight administered be very small." The chief difficulty in this case will be, not in the minute division of the gold, but in that of the iron. It is probable, however, that in this combination of gold and iron, we shall possess, when properly managed, a complete antidote to one of our commonest and strongest poisons. (7.)

In those neuralgic affections, which do not depend upon any organic affection, nor on any constitutional principle situated in the nerves themselves, such as the virus of syphilis, the oil of turpentine will occasionally be found to relieve when the more ordinary methods of treatment fail: this will be found especially the case, when the nerves of the upper and lower extremities are implicated. (10)

As we are great advocates for the use of nitrate of silver in ophthalmic cases as well as in many other maladies, especially of the stomach, we are glad to perceive it gaining that confidence to which its remedial powers entitle it. In gonorrhœa, we find it of inestimable use when we use it in the strength recommended by Mr. R. Carmichael, viz., beginning with about a quarter of a grain to the ounce of distilled water, and increasing the proportion gradually to that which can be borne with impunity, seldom exceeding one grain to the ounce. We should prefer this mild injection to those which are stronger, although it is frequently used of the strength of from one to four grains to the ounce. In *chilblains*, a solution of this substance, of ten to thirty grains to the ounce, and even a drachm to the ounce, if necessary, will often be found superior to the tincture of camphor, and every other remedy in these troublesome affections. In *hæmorrhoids*, too, the nitrate of silver, when made into an ointment, will be found a valuable application. It may be made of five to ten grains of the powdered nitrate of silver, to an ounce of lard. This is more particularly useful when the piles are recent. When the hæmorrhoids arise from internal piles, or from congestion of the lining membrane of the anus, a solution of the nitrate, in the proportion of ten to thirty grains to the ounce, is preferable to the ointment; not more than a drachm of the solution is to be injected at once. (11.)

The treatment of painters' colic is sometimes very tedious and unsatisfactory, considering the pain which is frequently endured before the affection is overcome. In our 4th Retrospect, Art. 24, it is recommended to be treated by putting the patient into a warm bath, and giving him glysters while in the bath, and making use of the warm water in which he is plac-

ed. Dr. C. J. B. Williams recommends, in addition, that the powerful purgatives which we give in these cases, should be combined with belladonna, in order to relieve the excessive pain, and followed up with alum, when the bowels have been freely opened. Half a grain of the extract of belladonna, may be combined with two or four drops of croton oil, and given every third hour, till the effect is produced, and this may be followed up with ten grains of alum, three times a-day. Lead seems to impair the action of the bowels without diminishing their sensibility: and hence, portions of the canal become distended with their contents, without having the power to propel them forwards. The combination, therefore, of a powerful purgative to stimulate the paralysed intestine into action, and belladonna to lower its sensibility, without counteracting the powers of the purgative, is judicious treatment. Dr. Williams mentions a curious fact in regard to belladonna and stramonium, that in animals poisoned by them, the alimentary canal retained its sensibility, while that of the bronchial fibres was quite destroyed. The exhibition of alum is to promote the chronic contraction of the bowels afterwards. It may still be combined with belladonna if necessary. (12.)

We cannot but agree with Dr. Edwards and Mr. Snow in their views respecting the best mode of resuscitating drowned persons, and children that have been still-born. Dr. Edwards has certainly shown, that asphyxia takes place more rapidly at blood-heat than at inferior temperatures; and he, has moreover, shown, "that the quantity of oxygen consumed, and the necessity for respiration, keep a direct ratio with the developement of natural heat; and, likewise, that the application of heat to the body increases its power of developing caloric, whilst the abstraction of heat by any cold medium had a contrary effect." By putting a patient into a warm bath during a state of asphyxia, therefore, we cause the system to require more oxygen, and must, therefore, increase the asphyxia and hasten death, unless respiration is, by the stimulus, re-established. This seems to be very much confirmed by the want of success in the Royal Humane Society, where warmth is generally employed; whereas, some time ago, when less energetic measures were taken to restore the warmth of the surface, persons were frequently restored who had been submerged ten minutes; and in one case even twenty minutes. And, in the report of a society at Amsterdam, persons are said to have been restored who had been a quarter of an hour, half an hour, and one a whole hour under water: this is reported by a scientific society; and when we remember that when a person has been only five minutes under water, and may be often ten or fifteen minutes without breathing, we may easily suppose it possible for him to be this length of time under water and still be restored. To promote respiration, therefore, ought to be the great object in resuscitating drowned persons or still-born children, and this ought to be done immediately, by performing artificial respiration; and at the same time, the surface of the body should be kept cool till respiration is re-established, in order that as little as possible of the oxygen which remains in the system may be consumed. (13.) While on the subject of asphyxia, we may refer to the experiments of M. Leroy d'Etoiles, who has suggested galvano-puncture in a manner which at first sight appears formidable. "He introduces an acupuncture needle on each side, between the eighth and ninth ribs, until it reaches the fibres of the diaphragm. He then establishes a galvanic current between the needles, by means of a pile of 25 to 30 pairs of plates an inch in diameter. In his experiments the diaphragm was instantly made to contract, and an inspiration was taken, then by interrupting the circle and gently pressing on the abdomen, the diaphragm again ascended, and an expiration was accomplished. Leroy was thus successful in restoring animals which had been under water above five minutes; but

upon the whole, the experiments were more interesting than really practical, and could only be brought forward in aid of the more usual means of inducing artificial respiration. (25) A very extraordinary case of resuscitation is related by M. Trousseau, where the patient had breathed his last a few moments before the operation of tracheotomy was commenced. The heart commenced beating in about a quarter of an hour, and in 57 minutes a deep inspiration was taken. This operation would no doubt be advisable as a last resource in many cases of drowning, as well as in those cases of asphyxia caused by actual disease. When the practitioner is called in haste to such a case, he may adopt the practice of M. Maslhieurat, of drawing aside each lip of the division of the cricoid cartilage with a bent pin, to which a string may be attached, and tied behind the neck so as to keep the wound open. The cricoid cartilage and three rings of the trachea may be divided with a probe-pointed bistoury introduced through a wound previously made in the thyroid membrane; or, the trachea having been laid bare, "it may be punctured at the inferior angle of the wound with a sharp-pointed bistoury, and the rings and cricoid cartilage may be immediately divided by directing the same instrument upwards." (67.)

A good deal has of late been said and written, on the continent, respecting the powers of the waters of Vichy to dissolve urinary calculi; but we suspect the power of this remedy will be inferior to other more powerful alkalies, especially when they are taken largely diluted. The waters of Vichy must be chiefly efficacious from containing the carbonate of soda, lime, and magnesia, but we see no reason why the alkalies artificially prepared, may not be far superior in efficacy. (16.)

In many cases of renal dropsy we shall find elaterium of essential use to us. Medical men are already well aware of the excellent effects of this drug. Bleeding and diuretics are, in their way, of great value in such cases, but the removal of serum from the abdomen and albumen from the urine, must generally be accomplished by the use of elaterium. Dr. Clendinning advises a very judicious mode of administering it, viz., in minute doses at intervals throughout the day, which is generally followed by copious evacuations, and the increased activity of the bowels is generally accompanied by corresponding activity of the kidneys and copious evacations of urine. By steadily persevering in this treatment, a constant flux is maintained which soon exhausts the serous effusions. It is well always between each day of purgation to have a refreshing night's rest; which is of course the more wholesome when natural, but if necessary, opium must be resorted to, to procure the necessary rest. The use of opium at night, not only procures the necessary sleep when nature will not allow it, but induces in the patient a much greater tolerance for the drug. (17.)

Dr. James Johnson suggests that the Chinese mode of smoking opium may be made useful "in certain dangerous and painful maladies, where the commom mode is found to be inefficient, and attended with great derangement of the digestive organs." The Chinese method induces a profound sleep and insensibility to all mental misery and corporeal pain, which cannot be induced by opium taken into the stomach, and may, therefore, at some period, be used in cases of tetanus, hydrophobia, tic-douloureux, and violent spasms, where the common mode of giving opium by the stomach so frequently fails. Dr. Johnson adds, that "the various preparations of opium might be easily smoked by means of a common pipe, and the powerful effects induced in a very short space of time without the possibility of their being rejected by the stomach, or prevented from acting energetically on the sensorium, and throughout the whole nervous system." (18.)

The researches of M. Bouchardat on Diabetes Mellitus, are probably well known to many British practitioners, but not to all, and we would

therefore direct particular attention to his interesting cases, although we cannot quite agree with him in his theory, which is evidently too chemical. He supposes that diabetes originally arises from suppressed perspiration, in other words, "from the acid secretion of the skin being suddenly and completely interrupted," in consequence of which the secretions of the mucous membrane and of the glands of the digestive organs are altered in their chemical composition, and become almost completely acid instead of being alkaline. Now although M. Bouchardat acknowledges the superabundant acids in the digestive organs cannot of themselves act on the fecula so as to change it into sugar, yet he affirms that whenever the organic acids exist in considerable quantity, we simultaneously encounter that modification of albumen which acts in converting fecula into sugar, as occurs in the ripening of fruits. In consequence of this theory, M. Bouchardat bends his whole attention to restoring the functions of the skin, and in giving such aliment as contains the least possible quantity of sugar, such as bread made of gluten, &c. (20.)

Bouchardat's opinions, although very plausible, are objected to by men equally eminent. The sugar, no doubt, is formed in the process of digestion, and afterwards becomes conveyed by the blood to the kidneys, where it is eliminated with extraordinary rapidity, so that large quantities are never to be met with in the blood at any one time. Dr. Prout supposes, that diabetes originates in loss of power to assimilate the saccharine principles which we take as food. The formation of sugar in the stomach, is a *healthy* process; but when that sugar cannot be assimilated to the constituent principles of the blood, and through them into the living tissues of the body, it gives rise to diabetes. According to this theory, which we should regard as more correct than Bouchardat's, the great principles of treatment consist in strengthening the digestive and assimilating functions, and in preventing, as far as possible, the formation of sugar in the stomach, by giving only those articles of diet which are as free as possible from saccharine principles; the last object is almost attained by giving what is called gluten bread; and although this does not exert any positively curative power, it gives time for nature to exert her influence in the system. Majendie proves by experiments, that gluten extracted from wheat flour, is of itself sufficient for the nourishment of dogs, and it is probable, that man might be sustained for a very considerable time on gluten and animal food; but as bread made of gluten is too leathery to be easily masticated, it is necessary to mix a certain quantity of starch with the gluten; one-fifth part of starch in the bread renders it sufficiently easy of mastication. Bravais relates two cases which were completely cured, although the following articles of diet were allowed:—animal nutriment, beef, mutton, fowls, bacon, milk in every form, eggs, cheese, chocolate (without sugar,) occasionally spinnage, chicory, sorrel, salades, cabbage, and onions; while the following articles were strictly prohibited:—bread, potatoes, rice, barley, vermicelli, haricots, sugar, apples, pears, raisins, and all food gummy, saccharine, or feculent. (29.)

The union of acupuncturation with electricity, constituting what is called electro-puncture, has been found of great use in many neuralgic affections. The operation consists in employing one or several needles, and making a communication between them and the prime conductor of an electrical machine, or they may be made to form part of the circuit in the discharge of a Leyden jar. "Majendie affirms that he has treated many cases of incomplete amaurosis with great success by this agency. He employed it, however, in the form of what has been more properly termed galvano puncture,—by fixing a needle in the frontal nerve, and another in the superior maxillary, and making these communicate respectively with

the poles of a galvanic pile of twelve pairs of plates, each six inches square." (25)

Mustard poultices are becoming more and more useful in practice, and every improvement in the mode of using a common application ought to be known. The *oil* obtained from mustard seed, seems to us likely to prove a more convenient, and at any rate, a much cleaner application, than the common poultice. It may be rubbed on the surface of the skin, when properly diluted, or it may be applied on strips of linen wetted with the solution. The first is advised when the skin is delicate, and the latter where a more powerful effect is required. The great advantage of mustard poultices, is their immediate effect, and the great degree of counter-irritation which they produce. The oil of mustard seed is an application, which, when properly secured in a well stopped bottle, the practitioner can carry in his pocket to those cases which require immediate attention. Dr. Meyer uses twenty-four drops of the oil to an ounce of rectified spirit, or five or six drops to a drachm of oil of almonds; but owing to the great volatility of the oil, it is not only necessary to keep it in well stopped bottles, but also to mix it for use with the spirit or oil only when required. (25.) While speaking of counter-irritants, we may suggest, that the concentrated tincture of capsicum, as recommended by Dr. Turnbull, (38.) will be found an improvement, in those cases where we want to produce powerful rubefacient effects: and in those cases of enlarged tonsils, and even in deeper seated inflammation of the submucous tissues which so often follows scarlatina, a combination of capsicum with the powdered, or solution of alum, (as recommended so strongly by M. Velpeau and by ourselves, in Retrospect, No. IV., Art. 8,) will be found an improvement. It may be made by combining three parts of alum with one of the concentrated tincture of capsicum, and after drying them it may be applied in the powdered state to the tonsils as before recommended. We can truly affirm that the treatment of Velpeau is most excellent, and the effects admirable. (38.)

The sedative agency of cold to the spine, in the form of ice, has been found, by Mr Pincott, to be valuable in those cases of infantile convulsions which depend upon an irritable state of the cerebro-spinal axis. It may be applied in an ox-gullet along the course of the spine, from the occiput to the sacrum. In the case related by Dr. Todd, in which the ice was applied at the suggestion of Mr. Pincott, the convulsions ceased in ten minutes, although they had existed a considerable time, and had resisted all the usual means of treatment. (27.)

Mr. Tyson, of Ashbourne, has been in the habit of using different preparations of iron, antimony, and mercury, to those which are generally known and prescribed by the profession; and if the elegance and value of these preparations equal the praises which he heaps upon them, we shall be in possession of very excellent modes of preparing these valuable medicines. We cannot enter minutely into the merits of the different preparations, which we leave to abler chemists than ourselves. The liquor Oxysulphatis Ferri, which is in constant use among the practitioners of Derbyshire, seems to be a very excellent and powerful preparation of iron, composed of sulphate of iron, nitric acid, and water. "The oxygen of the nitric acid uniting with the sulphate of iron, forms a per-sulphate; at the same time the iron is converted into red oxide As a medicine it far surpasses the Tinct. Ferri mur., and it never precipitates the oxide of iron." We strongly recommend the reader again to refer to these excellent formulæ. (28.) The preparations of mercury and antimony used by Mr. Tyson, are also differently made to those in general use by medical men, and equally worthy of consideration by the practitioner and the chemist. James's fever powder is a preparation so frequently required, and at the same time so

expensive, that if we could obtain a good substitute it would be very desirable. This Mr. Tyson states he has accomplished. (5.)

It occasionally happens in cases of poisoning by laudanum, that the most powerful emetics will fail to produce vomiting; and, notwithstanding the praises heaped upon the use of the stomach pump, we are persuaded that it is too often a useless application, not only from the impossibility of thoroughly cleansing out the stomach by it, but also from the difficulty of using it under some circumstances: Nature herself will always accomplish what we want, better than will any such artificial means. In a case of this kind, published by Dr. Buck, the patient had swallowed an ounce of laudanum, and the most powerful emetics were unable to produce any effect; forty grains of pulv. ipecac. with forty grains of sulphate of zinc, then two hundred grains of ipecac. and the same quantity of sulphate of zinc, and ultimately twenty-four grains of tartar emetic, were tried in vain under these circumstances; and as the patient was evidently becoming worse, pulse slower, face livid, respiration nearly extinct, Dr. Buck injected a pint of vinegar into the stomach, and immediately after it a large teaspoon four times heaped full of sal æratus dissolved in half a pint of warm water. "The effect was instantaneous. It broke forth foaming from the mouth in a stream of the full size of that orifice, with such a force as to be projected a yard or more." In about fifteen minutes the operation was repeated, using only half the quantity of vinegar and the same quantity of sal æratus and water.* Green tea was afterwards administered; and next day the patient, although greatly prostrated, was perfectly rational, and gradually recovered. (31.)

Since the publication of our former volumes, several additional notices have been made respecting the use of croton oil in tic doloureux and other nervous affections, which we can corroborate from our own experience in numerous cases which have come under our notice. Dr. Easton, of Glasgow, relates another case where this remedy was remarkable. Its good effects do not seem to depend entirely on its purgative qualities, but upon resemblance in its operation to the effects of *colchicum autumnale*. This is corroborated by the fact, that with the use of both colchicum autumnale and croton oil, the urine is increased in quantity, and is evidently denser than usual, the alvine evacuations being yellow and most offensive. The seat of neuralgia may be supposed to be frequently in the fibrous neurilema, while the good effects of colchicum are perceived more especially when the fibrous structures of joints are affected, thus shewing that there is some identity of tissue for the good effects of both colchicum and croton oil to show themselves. Dr. Lewins, of Leith, has shown that by the exhibition of colchicum, the specific gravity of urine rises from 1·009 to as high as 1·037, owing to the increase of urea and of the urate of ammonia, and that, as during the use of croton oil the fæces become of a bright yellow colour, "the liver being stimulated apparently through the duodenum, in accordance with the physiological law that when a membrane is irritated on which an excreting duct opens, the gland from which that duct proceeds is excited to unusual secerning activity." Dr. Easton then asks the question, "Can it be that the croton tiglium is similar in its action to that of the colchicum, and that it does good in tic doloureux by inducing the same effects that colchicum does, when it alleviates the sufferings of the gouty and rheumatic—by eliminating urea and uric acid salts through the urine, when these highly nitrogenous productions of the blood are in excess, and thereby the sources of constitutional irritation, and also by causing a super-secretion of bile?" (33.)

In those cases where very rapid vesication is required, Mr. Edwards

* By sal æratus, we suppose, Dr. Buck means "ærated salt;" i. e., carbonate of soda or potash.

accomplishes this by rubbing the part with some inflammable body, and then setting fire to it; æther, spirits of wine, gin, or any other spirituous application may be made use of. It is another way of applying the actual cautery, and ought only to be used when the case is of a serious and very urgent nature: hot water applied to a part will have the same effect. (34.)

A process was invented some time ago by Dr. Whiting, for making bread without yeast, by combining muriatic acid and carbonate of soda so as to produce common salt in the dough. Mr. Dodson improved upon this, by using larger proportions of the muriatic acid and soda, and thus produced an unfermented bread which was exceedingly valuable for weak stomachs, being free from all yeasty particles, and not so liable to create flatulence or turn acid. Mr. Dean has published a method rather different to the others, but on the same principle. (35.)

M. Benoist proposes to substitute a solution of carbonate of soda for liquid albumen, as an antidote in cases of poisoning with salts of copper. He affirms that it forms with the salts of copper an insoluble carbonate, having no deleterious action; and that it is superior to albumen, as this, when used too freely only dissolves the poison. (39.)

The French practitioners, who are delighted with novelties, are now placing great reliance on phloridrine, as an adjunct to our preparations of cinchona. "It is extracted from the bark of the roots of the apple tree and the wild cherry tree." M. Lebaudy, editor of the Journal des Connaissances Med. Chir., says, "its efficacy is so decided that we cannot hesitate to class it with the most powerful febrifuges." (45.)

It is impossible in this retrospective summary to do more than glance at the different improvements in practice, which have lately occurred in both medicine and surgery: the reader must refer to the articles in question, and also, if necessary, to the original articles in the different works and journals, which have afforded us a supply of so much interesting matter. For example, the papers of Mr. Edwin Lee on lithotomy and lithotrity, occupy a large portion of two numbers of the Edinburgh Medical and Surgical Journal; and it would be impossible therefore to do do justice here. In article 47, however, we have extracted the pith of the whole, to which we beg to refer the reader for a very clever elucidation of the most practical points to be observed in the treatment of stone in the bladder, and for the advantages and disadvantages of lithotomy and lithotrity. Notwithstanding all that has been said in favour of lithotrity, and especially in France, every practical surgeon must see that for a variety of reasons, lithotomy is most suited to a majority of cases of stone, and especially when we include children in the account, in whom lithotrity would be quite inapplicable—but if we exclude children, then it is said that nearly an equal number of cases would be subjects in whom lithotrity might be attempted, because the important operation of lithotrity might be performed in case of failure by the former. Again;—lithotrity is preferable in the female subject, and in most cases in which stone is small and hard—lithotomy, when the bladder contains several calculi, especially when hard; when the calculus is large, lithotrity is seldom advisable. In all cases too of irritability of the urethra and bladder, which could not be subdued previous to the operation, lithotomy is decidedly to be preferred, for although the degree of pain and irritation may be more severe for the time in lithotomy, the length of time and number of sittings required in lithotrity, renders it impossible with safety that the patient should undergo them. Lastly, when lithotrity is recommended, the method by pressure is in a great majority of cases preferable to that of percussion. (47.)

Perhaps in no branch of surgery have more improvements taken place than in treatment of strictures of the urethra. The works of Arnott, Cooper, Wade, and Arntzenius which are so ably reviewed in the Brit. and

For. Med. Review, bear testimony to the correctness of this observation. Hunter believed that stricture was never produced by gonorrhœa; and Home and Abernethy believed that it was generally brought on by the use of injections during the inflammatory stage: we cannot, however, but agree with the reviewer of these opinions, that "we are much more likely to expose our patient to the chance of stricture by totally omitting the use of injections in gonorrhœa, than by their judicious employ. The quicker a gonorrhœa is cured the less likely are we to have stricture follow it. Gonorrhœa is a disease whose ill consequences are in a direct ratio with the period of its continuance." When stricture has once taken place, it must be treated either by simple dilatation, dilatation by fluid pressure, or by the bougie armed with the potassa fusa, or nitrate of silver. The bougies used by Arntzenius are very peculiar: they are made of strips of parchment rolled up so tightly that the layers adhere pretty firmly to each other, and having at one end a knob or drop of glue made of boiled parchment. Dr. Arnott uses his fluid dilator with great efficacy. It was constructed with the view of being pressed into the strictured portion, and then dilated, with the same object which was had in view when the old tents made of sponge, and bougies made of catgut, leather, &c., were manufactured. This dilator of Dr. Arnott's "should be of little bulk and of easy introduction, and should be made capable of assuming and retaining any shape and magnitude when in the urethra; or should also be capable of exerting a distending force to any degree, and always under control." It consists of "a tube of oiled silk, lined with the thin gut of some small animal to make it air tight, and attached to the extremity of a small canula, by which it is distended with air or water from a bag or syringe of the outer end, with a stop cock or valve to keep the air or water in when received." For a more particular description of the steps of the operation, we refer the reader to page 98. In hard fibro-cartilaginous strictures impervious to instruments without employing injurious pressure, Mr. Wade revives the practice of Mr. Whately, viz. the use of bougies armed with potassa fusa, which, in his opinion, acts beneficially upon strictures, "first, by its dissolvent powers; secondly, by promoting absorption, and stimulating the congested vessels to contraction; thirdly, by relieving irritability and inflammation." He prefers the potassa fusa to the nitrate of silver, as the former does not, like the latter, cause a slough, and hence the painful sensation produced by the urine passing over an ulcerated surface is avoided. At page 101 will be found minute directions for using the armed bougie.

When the stricture is absolutely impervious, it is not now considered advisable to use the forcible catheterism as practiced by Dessault, nor to depend upon the forcible injections of Amussat, but to have recourse to either puncture of the bladder above the pubes, or cutting into the urethra behind the stricture. The first is certainly the easiest operation, and much safer than has been generally supposed; "the puncture through the rectum is preferable to it only in the few cases in which the bladder lies very deep and far back, and the puncture through the perineum should be adopted only when effusion of urine has already taken place. The last mode of operation, by cutting into the urethra behind the stricture, is peculiarly adapted to cases, in which the retention depends on obstruction by foreign bodies in the canal, or in which the urethra is manifestly very much dilated behind the stricture," but at other times the difficulty of finding the urethra is a great objection. In the treatment of stricture, Mr. Cooper first uses a silver catheter or bougie, to ascertain the seat of the affection, which should be pressed against the constricted portion for a few minutes, which will overcome the difficulty if muscular spasm be the cause of it. If this does not overcome the resistance in three or four minutes, it is evidently owing to the density of an adventitious deposition. In this case more force may be used, but if by moderate force it be not overcome, the attempt

must be relinquished for the present, and leeches to the perineum, and purgatives should be recommended. In many cases, by maintaining an equable degree of force on the surface of the stricture, inflammation and softening down of the newly formed substance is produced; suppuration is set up, and the stricture gives way; and it is now more particularly that the surgeon should exercise the greatest caution to avoid making a false passage, which he is certain to do if he continues to press upon the sides of the urethra instead of the stricture itself. (48.)

Few cases come under our notice which are more dangerous than the contusion of a hernia, which may be so severe as to cause the rupture of the bowel, or such a degree of sloughing as may end in the escape of the fæces into the peritoneal cavity. What are we to do when the blow or injury has been so severe that these results are apprehended, and if the violence of the symptoms be such as to warrant such a conclusion? The most judicious practice, according to Mr. Key, is to open the sac, and if fæces are present to liberate them, and if not, to wait in order to see if the bowel should slough. In either case, the opening of the sac will allow a free exit to any fæces which are, or which may be present. In one case the patient experienced no relief for three days from the opening of the sac, when a copious discharge of fæces took place and completely relieved him. In another case the blow was so severe, and followed by such severe symptoms, that the bowel was supposed to be ruptured. On opening the sac, however, no fæces escaped for four days; at the end of which time, the fæces appeared and escaped freely. On the 7th day the fæces escaped by the rectum, although they continued to pass through the wound for five or six weeks, when ultimately the part healed. These facts will recall to the minds of most practical men, cases of such contusion, which have been left to themselves and have proved fatal by extravasation of the fæces into the cavity of the peritoneum, when an opening into the sac would have prevented such an occurrence; for, although such an opening ought not to be undertaken except from the strongest suspicions that rupture or sloughing has been caused, yet when we remember how often the sac is opened in cases of supposed strangulated hernia, without any danger resulting, we need not risk the life of a patient by an unnecessary delay in such a procedure. (49.)

The operation of M. Callisen, of Copenhagen, to produce an artificial anus in the lumbar region, over that portion of the intestine, not covered by the peritoneum, has recently been revived by M. Amussat with great success. In all the old operations for this purpose in the iliac region, by M.M. Littre and Pillore, the peritoneum was wounded, which seems to have been the chief cause of death in numerous cases. In his operation in the lumbar region, Callisen "proposed to make a vertical incision extending from the edge of the false ribs parallel to the anterior border of the quadratus lumborum muscle. He thus hoped to reach the colon between the layers of its short and imperfect mesentery." This operation, however, was attended with some difficulties, till modified by Amussat, who "has shown that the failure of the operation on the dead subject was owing to the intestine being empty, and that in such cases as require the formation of an artificial anus, the colon is greatly distended; in which condition the layers of the peritoneum, forming its imperfect mesentery, are so far separated as to allow the intestine being reached without opening the peritoneum." Amussat has, moreover, adopted the transverse instead of the vertical incision. This important operation has not only been performed on the adult, but also in an infant of forty-eight hours old. An interesting case, in which it was performed on the adult, by Mr. Teale, of Leeds, will be found in article 50, to which we beg to refer the reader for a more detailed account. (50.)

Various instruments have been invented for the evacuation of fluid from the chest. Mr. Snow, from his anxiety to avoid making a communication between the cavity of the chest and external air, makes use of an instrument which draws off any liquid, and at the same time prevents the transmission of air into the chest. "It consists of trocar and canula, with a stop cock in it; the trocar to pass through the open valve of the stop cock. A portion of the trocar must be made perfectly cylindrical, and to fit accurately the whole length of the canula. In withdrawing the trocar from the canula after their joint introduction, it must be brought so far as to be clear of the stop cock which point is indicated by a mark on the trocar, and then the stop cock must be turned before the complete removal of the trocar. The portion of elastic tube must now be screwed to the canula; and to this tube must be screwed a double action syringe, with two distinct valves, like a stomach pump. The valve of the stop cock can now be re-opened, and by working the pump, the contents of the pleura, whether gaseous or fluid, will be withdrawn."

This is certainly an ingenious instrument; but we must confess that we do not see that it is necessary to employ all this care to avoid the introduction of air into the thorax, when we know that the lung will frequently expand with the chest, although air be within its cavity, except it be bound down by adhesions. And even if air be introduced, it will frequently be absorbed in a very short time.

The grooved needle is also used by some practitioners to evacuate any fluid in the chest: Dr. Prichard, of Bristol, uses a needle with a larger groove than in the common instrument, and in this way is able to evacuate any fluid with perfect ease and safety; and with this advantage, that the pain attending the operation is so very trifling, that the patient will occasionally call for a repetition of it, after having once experienced the relief which follows its use. He has likewise used it successfully in ascites, and strongly recommends that both in this disease and in hydro-thorax, it should be used much earlier than the trocar is generally recommended, being "persuaded that the practice of deferring paracentesis in ascites, till all other means have been long tried, is one principal cause of the frequent return of the effusion. Dr. Babington has invented another very ingenious instrument for these cases, which in some instances may be even superior to the grooved needle, through which fluid will at times flow with difficulty. It consists of a very small trocar and canula, which, together, are not thicker than an ordinary grooved needle, and a probe which would pass through the canula It is very possible for the grooved needle to mislead the practitioner in his diagnosis in some cases, and especially in empyema, which is seldom a true effusion of pus, but only a puriform-looking liquid; "and the grooved needle often separates the serum from the small secretions of albumen, and causes empyema to be thought a simple serous effusion. Both these instruments, however, may easily be used, and with perfect safety to the patient. In one case in which it was used by Dr. Bird, no fluid escaped, and on passing the probe through the canula the lung could be felt distinctly, without any ill effects to the patient. (51.)

We think that in most fistulous communications between the bladder and vagina, and rectum and vagina, the actual cautery has failed so frequently, not so much from the improper way in which it is applied, but from the *short intervals* which have been allowed to elapse between one application and another: and we may extend the same observation to cauterisations of the mucous membrane of the vagina in cases of prolapsus uteri. In cases of severe burns, nature requires a long period to complete the full extent of cicatrisation and contraction of which the parts are capable, and were we to be repeatedly interrupting the process of contraction by fresh cauterisations we should only retard the operation, and perhaps eventually

frustrate it in some degree. This is especially applicable to cases of vesico-vaginal fistulæ, in which it has been recently suggested by Mr. Liston, and acted upon by Dr. Payan, that the cauterisations should be practised at *very long intervals*, so as to allow nature to complete the full extent of contraction of which the parts are capable, before having recourse to a fresh application of the cautery. It is recommended that four or six months should intervene between each operation. We should like to see the same success attending a similar action of the mucous membrane of the vagina for prolapsus of the womb. (52.)

In cases of gangrenous inflammation, it is well to remember the excellent effects which Dr. Davidson, of Glasgow, has found to result from a saturated solution of nitrate of silver in nitrous acid. He applies the solution to the surface of the part daily, and in the interim applies an emollient poultice. Nitrous acid is mentioned by several writers as valuable in checking gangrenous ulceration, but not, as far as we remember, in combination with nitrate of silver. The addition of this latter substance renders the liquor more caustic, tends to diminish inflammatory action, and leaves an ulcer having more healthy granulations. Dr. Davidson also makes some excellent remarks on the use of ioduret of sulphur in porrigo, lepra, and psoriases, to which we would beg to direct the attention of the profession. (53.)

A very interesting report is published of the amputations performed in University College Hospital, in which the flap amputation is recommended, as being not only more quickly performed, and with much less suffering to the patient, but as being attended altogether with better results, both as regards the form of the stump and the rapidity of its cure. There may be much truth in this observation; and yet, when we recollect that the circular operation has also its advantages, that the time occupied in its performance cannot be much longer, and that when a great number of cases are calculated, the success of the circular is at least equal to that of the flap amputation, we do not think that the former ought to be put on one side. Out of 115 cases of amputation recorded by Mr. Alcock, 90 of which were circular and 25 flap amputations, the proportion of secondary hæmorrhages was somewhat greater in the former than in the latter, and with respect to necrosis of the sawn bone, its liability was about equal in both kinds of amputation. But the mortality which followed these amputations, was rather greater in the flap than in the circular amputation. A very important improvement is now frequently adopted, in pressing on the the artery of a limb during amputation: instead of applying the tourniquet, an assistant commands the artery with his fingers. By this means very little blood is lost during the operation; for not only is the main artery completely secured, but the return of blood by the veins is not interfered with, as it is by the circular pressure of the tourniquet. Another advantage in this process is, that the retraction of the flaps is not interfered with when no tourniquet is used, so that the bone can be sawn through considerably above the point at which the first puncture in the skin was made. We think Mr. Liston's mode of dressing the stump very judicious, and far preferable to the immediate and hasty approximation of the flaps, which is so frequently practised. An interval of four or seven hours is frequently allowed to elapse after the amputation, before the surfaces are brought into juxta-position; cold water is, during this time, frequently applied to the stump, and the coagula even gently washed from the surface, so that the water may be applied more immediately to the vessels: in the course of a few hours the divided surfaces become glazed over, the wet lint and small remaining coagula are removed, and the dressing of the stump is then proceeded with. The flaps are now brought accurately together, and retained by suture and isinglass plaster. (54.)

Mr. Hugh Carmichael suggests a very simple, and yet we believe, a good method, of obtaining as much blood from the temporal artery, and other small arteries, as we desire. We know that all divided arteries have a strong disposition to contract, and that the divided extremities separate and retract within the sheath, while the orifices ultimately close altogether; at the same time the blood clots both in the vessel itself as far as the next branch, and also in the sheath, so that a complete stoppage is put to the flow of blood. The artery should now be *fillipped* in different parts with the finger, and at the same time pressed along its course with the back of the nail, so as to squeeze out any clot which may be lodging; the jet of blood will be again renewed, and will again diminish as at first; the same course must be again adopted, and repeated so long as it may be required. In opening the artery it is necessary to divide it completely across. (56.)

When it is recommended to apply a moxa to any part of the body, Dr. Osborne, of Dublin, has found quick lime to answer the purpose admirably. The quick lime is to be placed on the skin, inside a *porte moxa*, or a strip of card bent together and tied so as to form a circle; some water is then dropped on and mixed with it. "In about two minutes the mixture swells and becomes dry, and at the same time a high degree of heat is produced, which according to some experiments may amount to 500° Far." This is certainly a very convenient and cheap mode of applying the moxa, and may be useful in making issues of any depth. Dr. Osborne thinks "that the heat produces a contraction and change in the action of the vessels of the parts over which it is applied, with great excitement of the absorbents, enabling them to return to a state of health after the failure of all other means," as is well known and acted upon by veterinary surgeons when they use the actual cautery. (60.)

It has long been known that both the carotid arteries and the vertebrals may be tied with safety, provided sufficient time be allowed between each operation to allow the anastomosing circulation to be completed; but we believe it has been only lately confirmed by a report of the French Academy that both the carotids may be tied at the same time without immediate danger to the brain—and, moreover, that the danger is not so much in the brain itself as in the lungs, the vertebral arteries being sufficient to supply the brain. The great art in the management of a patient whose carotids have been tied, seems to be in bleeding him freely, if his strength permit, in order to relieve the lungs of that dangerous state of congestion which would produce fatal apoplexia of those organs. Even in the horse the vertebrals have been found quite sufficient to keep up the cerebral circulation, although in these animals these arteries are very small. (61.)

In a former volume it will be remembered by many that we mentioned an interesting case of Mr. Maunder's, in which that gentleman relieved a case of strangulated hernia by introducing the tube of the stomach pump to a considerable distance up the bowel, so as to give vent to flatus, which was soon followed by a reduction of the strangulation. Mr. A. S. Lawrence, of Clifton, relates an interesting case of strangulated hernia, in which he effected the reduction, not by the tube of the stomach pump, but by injecting four pints of tepid water gruel, followed in an hour by another pint, which had to be injected with some force owing to some resistance: on applying the taxis afterwards, the tumour was easily reduced. (63.)

M. Velpeau gives a good epitome of the treatment of varicose veins by different surgeons. This subject has been a good deal discussed of late, and a great variety of means have been adopted to remove the evil, such as acupuncture as practised by Fricke, and Davat local pressure by Delpech, and Sanson, ligature by M. Velpeau, and the obliteration of the vein by caustic, by Bonnet, and others. Velpeau, who is certainly one of the most

eminent and practical surgeons in Paris, places the greatest confidence in the ligature applied as follows: The patient must be placed in such a position as will render the veins tumid and prominent. "The trunk of the vein is now raised up with the finger's end, and a pin is passed below the ends of the nails and underneath the vein. This must be done to every dilated vein; eight, ten, twelve, or fifteen pins may be required from the foot up to the knee, but generally only about four are necessary." Each pin is then fixed by twisting a thread circularly round it and drawing it tight: to fix it as in hare-lip does not exert sufficient pressure. The pins and ligatures are not removed before the sixth or twelfth day. It is very questionable, notwithstanding the high authority of Velpeau, whether this is the best means of obliterating the vein, which is the great object to be attained; and although he states his practice to be very successful, we know that the reverse is frequently the case, and that dangerous and even fatal consequences sometimes ensue. Another mode of obliterating the vein, not referred to in this place by Velpeau, is by applying caustic potass to different parts of the dilated vein at intervals of two or three inches. Two applications of the caustic are recommended by M. Bonnet, the first to destroy the skin and cellular tissue over the vein, and the second to obliterate the vein itself; as it has frequently happened that a single application does not actually prevent the current of blood in the vessel but only destroys the external parts. The second application of the caustic has been rendered unnecessary by M. Laugier's practice of laying bare the vein before applying the potass, and then applying it to the vessel itself. Another excellent suggestion in the treatment of these cases, is that made by Mr. Teale, of Leeds, viz. to apply the caustic not more than two or three inches above the ulcer. This practice has been adopted from knowing that very little good effect is produced beyond the point where considerable anastomotic branches exist, and that the obliteration of a vein by caustic extends only about three or four inches beyond the application, so that it is of little use obliterating a vein for the cure of a varicose ulcer at any point where a large anastomosing branch is given off between that point and the ulcer.

This practice, however, like all the rest, has been attended with occasional inconvenience, such as hæmorrhage, and especially the indolent character of the artificial sore. This is certainly a very serious objection to this mode of treatment, as it occasionally produces a sore as obstinate to cure as the original one. Mr. Joseph Teale has suggested the immoveable fracture apparatus" to remedy some of these evils; and we believe that the equable and continued pressure arising from this treatment has been of the greatest service. (65.)

M. Velpeau treats varicocele much in the same way as varix, viz. by passing a needle or pin under the mass of varicose veins, and twisting the thread *circularly* round them; a second needle is passed within about an inch of the first one, taking care not to insert the needles too low or too high up, on account of the difficulty of separating the veins of the chord, and not too near each other for fear of causing the two sores to join, thus forming one large one. When the eschars are detached, the needles are withdrawn from the tenth to the twentieth day. (66.)

The usual way to reduce a dislocation has hitherto been to make steady, gradual, and long continued extension on the limb in a certain direction, but instead of this gradual extension, M. Colombot first places all the muscles surrounding the joint in an intermediate state between flexion and extension, and then takes them by surprise, by suddenly rotating the limb, which almost invariably accomplishes the reduction. Professor Williams, of Dublin, relates two interesting cases in which this plan was tried with success; and this leads us to repeat the observation, that the position

of a limb in the reduction of a dislocation ought to form a more important point of the treatment than is generally the case. Position, indeed, is never forgotten by the experienced surgeon, but he often depends more upon his power over the muscles by extension and counter-extension, than he need do, if he were to adopt the principle of treatment laid down by Colombot. His principle is to *obviate* muscular power, instead of *overcoming* it. (68)

We see an interesting suggestion made by Mr. Rogers, of Brighton, respecting the formation of catheters with globular tops. He merely suggests that such an instrument would be useful, judging from the success which attended the bougies used by Sir Charles Bell, which were of a similar form. Such catheters have now been in use for at least ten years, by one of the most eminent of our provincial surgeons, Mr. Smith, Surgeon to the Leeds Infirmary, who finds them in many cases much easier to be introduced into the bladder than the common catheter. The common catheter, as Mr. Rogers intimates, involves the whole passage, whilst the spherical topped one, having but a limited surface of resistance, glides much more easily into the bladder. (69.)

Mr. Bulley recommends, that in cases of iritis, injections of belladonna should be made use of. We have ourselves long been of opinion, with many other practitioners, that belladonna has an excellent effect in cases of this description: at the same time, it would not induce us to neglect the other and more established methods of practice. Mr. Bulley uses twenty grs. of belladonna to a pint of water, for a lotion, and adds five grs. of sulphate of copper occasionally. He first throws the stream on the closed lids for a few times, and when the patient has been a little accustomed to the shock, he injects the lotion upon the eye itself. (77.)

It is well to bear in mind that the French surgeons affirm, that in cauterising the neck of the womb, it is better to use the deuto-nitrate of mercury in all those cases where congestion of the womb is suspected, as the nitrate of silver has been found to be frequently followed by hæmorrhage. We should doubt the fact, however, that the nitrate of silver was the cause of the hæmorrhage any more than would the deuto-nitrate of mercury; and suspect that the same thing would have occurred from any kind of cauterisation, whether by the nitrate of silver or the deuto-nitrate of mercury. (83.)

M. Jobert, a respectable French Surgeon, has found in the treatment of many cases of stricture, that alum has answered his purpose as well as more powerful applications. He places the end of his bougie for a moment in a candle, by which it is so far softened, that on immersing it in pulverised alum, this adheres to the entire heated surface; the point is then rounded off between the fingers, so as to communicate to it a suitable shape. It is then passed into the stricture, and left there for twenty minutes or an hour. Not unfrequently, on the following day, a much larger instrument can be passed. (85.)

There can be no doubt that M. Ricord's method of testing cases of syphilis by inoculation, is a most valuable means of diagnosis, and ought to be almost invariably adopted, not only on account of the great importance to the patient that his case should be accurately diagnosed, but also from the comparative ease with which the experiment is made. The point inoculated should be covered with sticking plaster, and not be disturbed for three days; at the end of which time, the punctured point will be either almost imperceptible, or there will be seen the appearance of a small flat vesicle, containing lymph or pus, surrounded by an inflammatory zone. Occasionally a pustule does not form till the fourth or fifth day. When the inoculation has taken effect, we may be certain the disease is genuine syphilis, and may have recourse to mercury, &c., with confidence, and

without loss of time. In order to get rid of the artificial sore, we must freely apply the nitrate of silver, so that the texture may be destroyed to the depth of half a line, which will almost certainly destroy it, and cause the sore to heal. There are, however, some objections to this course. In the first place, it is not certain that the sore is *not* syphilitic although the inoculation takes no effect, because the secretion may have been accidentally removed from the surface of the sore before the lancet was made use of for the purpose of inoculation; or the character of the sore may have been altered by escharotics, or by inflammation and sloughing, or the secretion may be changed through time; therefore it is always necessary, before arming the lancet, that the suspected sore should not have been wiped or dressed with any chemical application for two or three hours previously. (86.)

A curious, but a very likely way of curing ante-version of the womb, is related by Dr. Godefroy. The woman was placed on the side of the bed, with her head and hands on the floor, and with only the anterior part of the thighs and legs resting on the bed. In this position the intestines were drawn towards the diaphragm, and the pelvis is completely emptied, thus giving the womb free liberty to resume its natural position, being of course assisted by gravitation. In this position, likewise, the usual manipulations to restore the organ to its proper position might be resorted to more efficaciously. (90)

Dr. Campbell brings before the profession a new obstetrical instrument, which he names "the *Kepaleptelis*," which he states to be valuable in extracting the fœtus in cases of contracted pelvis, even when the distance from the promontory of the sacrum to the pubis is only one inch and an eighth. We think this instrument may have some advantages over the *osteotomist* of the late Dr. Davis, but cannot speak of either of these instruments from personal experience. (91.)

A rather unusual way of checking hæmorrhage after delivery, is that lately practised by Dr. Hecking. It seems, that after a delivery of twins, the womb would not contract; and, after using a variety of methods to induce this contraction, Dr. Hecking introduced a sponge, previously dipped in cold water, into the womb, and applied it to the internal surface of that organ; as often as it became covered with blood it was removed, dipped again in cold water, and again applied in the same way. This completely succeeded. We see, however, no mention made of ergot of rye, and we must say that this was an important omission: for Dr. Hecking would have found, that this valuable drug would probably have saved him the trouble of applying cold water in the way which he practised. If he had immediately given half a drachm of fresh powdered secale, and repeated in a quarter or half an hour, or an hour, according to circumstances, he would have seen its excellent effects; and if he had anticipated hæmorrhage after the labour from the previous inactivity of the womb, he might have given the secale before the labour with still more advantage. The practitioner will frequently have patients in whom he will have to fear severe hæmorrage after labour, judging from the disposition of the womb in previous labours: in such cases he should always give a gentle dose of ergot before the child is born, which will save him much trouble and anxiety afterwards. (93.)

Before closing this retrospective summary of the most striking improvements and suggestions which have been published within the last six months, we would advert to the operation of *Lithectsy*, which is published in Dr. Willis's late work on Stone in the Bladder. It consists in cutting down upon the perineum behind the bulb, and then gradually stretching or dilating the orifice into the bladder, by means of the fluid dilatation of Dr. Arnott. It seems to convert the operation in the male into that of the

female, from whom, we know that calculi of very large size can be extracted by simple and gradual dilatation: and although this kind of operation has not yet been sufficiently corroborated by experience, we are not acquainted with sufficient contra-indications to prevent its more general trial.

It will not be necessary for us to recapitulate more at length. We might go more into detail respecting many improvements and practical suggestions which will be found in the body of this volume: but the foregoing observations have been deemed sufficient; and any further information may be obtained, either in the preceding pages, or in the different reviews which have afforded us so much valuable information.

INDEX TO PART V.

PAGE

Abscesses, on opening chronic, by the subcutaneous method, by M. Guerin.. 141
Acids and alkalies, saturation of..... 82
Æther, burning, as a counter-irritant..... 79
Alison, Dr., on the contraction of the womb 155
Alum in stricture of the urethra..... 145
Amadon, as a surgical application..... 141
Amaurosis treated by electro-puncture... 63
" turpentine in..... 133
Amber, yellow, in nervous affection..... 88
Amputation, on, by Mr. Liston..... 119
Amussat, M., on the operation for obstruction of the intestine..... 110
Aneurism, popliteal, mode of passing the ligature for, by Cooper..... 127
Antidote to corrosive sublimate..... 30
Antimonialis pulvis, by Tyson..... 26
Antimonii protoxydum, by Tyson..... 26
Antimony, on the preparations of, by Tyson..... 26
Arnott, Dr., on stricture..... 98
Arntzenius on do. 99
Arteries, on the subcutaneous ligature of. 144
Artery, on the opening of the temporal... 124
Asphyxia, further remarks on, by Mr. Snow and Dr. Edwards..... 48
" treated by electro-puncture... 63
Asthma, on, by Dr. Watson..... 22
" muscles of the air tubes involved in an attack of..... 22
" contractility of the lungs and air tubes in, proved by Dr. Williams.. 22
" caprice of some patients attacked with..... 24
Austin on hare-lip..... 174
Babington, Dr., on chorea 38
" " on paracentesis..... 113
Barry's remarks on an antidote to corrosive sublimate..... 34
Barry, Dr., on the corpuscles of the blood 174
Bates, Mr., of Sudbury, reference to..... 28
Beau, M., on rheumatic dermalgia..... 76
Beesley, Mr., on gelee pour le goitre..... 85
Bell, Sir Charles, on croton oil..... 78
Bell, Mr. Jacob, on infusions..... 83
Belladonna in iritis, &c..... 142
Bennett, Dr. H., on percussion..... 20
Benoist, M., on the antidote to copper.... 84
Bird, Dr., on paracentesis..... 113
Bladder, prolapsus of, cured by operation 125
Blaud's steel pills..... 83
Blistering plaster, on, by Soubeiran..... 85
Bostock, Dr., on the uses of the liver..... 168
Bouchardat. M., on diabetes mellitus..... 59
Bowman on the malpighian bodies of the kidney..... 174
Bravais, M., on diabetes mellitus..... 74
Bread, pharmaceutical..... 81
Buck, Dr., on poisoning by laudanum.... 75
Buckler, Dr., on gold leaf and iron filings as an antidote to corrosive sublimate 30
Burns, treacle and water used in..... 142

PAGE

Budd, Dr. George, on diabetes mellitus.. 70
Cæsarian section, case of..... 158
Calcis phosphatis, of Tyson..... 27
Calculi urinary, treated by the waters of Vichy..... 52
Cancer of the womb, on, by Dr. Montgomery..... 35
" transmissibility of..... 174
Carmichael, Mr. R., note respecting..... 44
" Mr. H., on opening the temporal artery..... 124
Campbell, Dr., on the kepalepsalis..... 152
Capsicum and alum, on, by Dr. Turnbull. 84
Carotids, on ligature of the, by Miller.... 130
Carrageen, or Irish moss..... 44
Catheters with globular tops, by Rogers. 140
Chilblains treated with nitrate of silver... 44
Childs on spinal curvature..... 174
Cholera, diacetate of lead in..... 75
Chorea, on, by Dr. Babington..... 38
" opinion of Dr. Marshall Hall on.. 38
Clay, Dr., on enlarged nose..... 143
Clendinning, Dr., on elaterium in renal dropsy..... 54
"Clinkers," a new form of giving iron... 57
Coffee, an antidote to morphia..... 62
Colic, painter's, treatment of, by Dr. Williams..... 47
Colombot, M., on reduction of dislocations 138
Convulsions, infantile, treated by ice..... 67
Cooper, Mr. B., on the ligature for popliteal aneurism..... 127
" " on concussion of the brain 128
Copper, antidote to, by Benoist..... 84
Cornea, on the structure of the..... 172
Corrosive sublimate, antidote to..... 30
Counter irritants, on, by Dr. Turnbull.... 84
Creosote, on..... 45
Croton oil, on..... 45
Cunier, M., on dividing the muscles of the eye in certain cases..... 143
Davidson, Dr., on gangrenous inflammation, porrigo, and lepra..... 115
Davis, Dr., on the osteotomist..... 153
Deane, Mr., on pharmaceutical bread.... 81
Dermalgia, on rheumatic, by M. Beau.... 76
Diastolic sound of the heart..... 14
Diabetes mellitus, on, by M. Bouchardat. 59
" " by Dr. Budd..... 70
" " by M. Bravais..... 74
Dick, Dr., on gastric affections..... 61
Dieffenbach, on dividing the muscles of the face in chronic spasm..... 142
Different degrees of percussion in deep and superficial disease..... 21
Dislocations, reductions of, by Colombot.. 138
Doherty, Dr., on strictures of the vagina. 148
Donne, on the urine of pregnant women.. 161
Dropsy, renal, treated with elaterium.... 54
Dunglison, Dr., on electro-puncture..... 63
Dysmenorrhœa, relieved by leeches to the knee.. 61

Easton, Dr., on croton oil in tic douloureux 78
Edwards'. Dr., experiments on asphyxia. 48
Edwards, Mr., on "clinkers" 57
" " on rapid vesication 80
Elaterium in renal dropsy 54
Electro-puncture, on the practice of 63
Ergot, on the action of 46
" action of, in cows 160
Erysipelas, sulphate of iron in 132
Ether and opium in asthma 24
Eye, position of images in, by Broughton 174
Face, muscles of, divided for chronic spasm by Dieffenbach 142
Fergusson, on dividing the masseter muscle 142
Fistula, vesico-vaginal, by Dr. Payan and Mr. Liston 113
Flint, Dr, on intermittent fever 65
Force, different, employed to ascertain deep or superficial disease 20
Fordred, Mr., on medicated waters 87
Fosgate, Dr, on coffee, as an antidote to morphia 62
Fractures, excision of the calina in badly united, by Portal 120
Gaddi, Dr., on the arteries and veins of the intestines 124
Gangrenous inflammation, on, by Dr. Davidson 125
Gelse from le goitre, by Beesley 85
General rules for percussion 20
Gluten bread in diabetes 78
Gold leaf and iron filings, an antidote to corrosive sublimate 30
Gonorrhœa treated with nitrate of silver. 43
Graves, Dr., on the prognosis of affections of the portio dura 174
" on albuminuria 174
Gravidine, a new substance, as a sign of pregnancy 162
Hæmorrhage, internal, diacetate of lead in 75
Hæmorrhoids, nitrate of silver in 44
Hammer, the, used in percussion 20
Harrogate water, artificial 85
" salts, " 85
Heart, on the sounds of the 12
" on do. do. 174
" cause of the sounds of the 14
" on valvular disease of the 17
Hernia, on pseudo-strangulation of, by Malgaigne 122
" copious injections in, by Lawrence 132
" opium in 146
Hocken, Dr., on amaurosis 133
Hope, Dr., on valvular disease 17
Houlton, Mr., on leontodon taraxacum 18
" on hyoscianus 88
Hydrargyri Protoxydi, Pilula, on 27
" Protoxydum, on 28
" Unguentum, on 28
Hydrargyrus cum creta, on 28
Hydrocele, iodine in 141
Hyoscianus, on the collection and preservation of 86
Infusions, on, by Mr. Bell 83
" on, by Mr. Alsop 83
Intestine injured by blows, treatment of, by Mr. Key 106
Iodine in hydrocele 142
Intestine, on the operation for obstruction of, by Mr. Teale 107
" on the operation for obstruction of, by M. Amussat 119
Intermittent fever, quinia in 65
Iodine, injections in cerous cysts 143
Ioduret of sulphur in porrigo, lepra, and psoriasis 115
Iritis, treated with belladonna, &c 142
Iron, on different preparations of, by Mr. Tyson 68
Johnson, Dr. James, on opium smoking ... 56
Kepalepsalis, on the, by Dr. Campbell ... 152
Key, Mr. C. A., on treatment of injured intestine 104
Kiestien, on the detection of 159
Laudanum, on poisoning by 75
Lawrence, Mr., on injections in hernia ... 132
Lee, Mr., on lithotomy and lithotrity 89
Lee, Dr, on the nerves of the womb 174
Leontodon taraxacum, on, by Houlton ... 18
" " views of, by Bergius 18
" " " by Dr. W. Philip 18
" " views of, by Dr. Pemberton 18
" " spontaneous evaporation of 19
Lepra, on, by Dr. Davidson 15
Letheby, Mr., on the detection of kiestein 159
Levrat, M., on neuralgic affections 62
Lightfoot, Mr., on prolapsus of the bladder 125
Liston, Mr., on amputation, &c 119
Lithotomy and lithotrity, by Mr. Lee 89
" on the operation of, by Fergusson 197
Liver, on the uses of the, by Dr. Bostock. 169
Lobelia inflata, mode of making the tincture of 25
Macleod, Dr., on muscular rheumatism ... 76
Malgaigne, M., on pseudo-strangulation of hernia 122
Martinet, M., on turpentine in sciatica ... 42
Maslhieurat, M., on tracheotomy 137
Maye, Mr., on wounds received in dissecting 141
" on inoculation as a test of syphilis 145
Medicated waters, on the extemporaneous preparation of 87
Miller, Mr., on ligature of the carotids ... 130
Montgomery, Dr., on cancer of the womb 35
Morphia, on coffee as an antidote to 62
Moxa, on lime, by Dr. Osborne 129
Mustard-seed oil, on 64
Neuralgic affections, narcotism in 62
" " electro-puncture in ... 63
" " croton oil in 78
Nitrate of silver in gonorrhœa 43
" " in chilblains 44
" " in hæmorrhoids 44
" " in gastric affections 61
Nitro muriatic mixture, reference to 18
Nitrous acid and nitrate of silver, use of, in gangrene 115
Nose, on enlargement of 149
Operation for obstruction of intestine, on the 109
Opium in parhelia 88

Opium, smoking as a remedial agent..... 56
Osborne, Dr., on lime moxa..... 129
Osteotomist, on the, by Dr. Davis..... 154
Os uteri, on rigidity of..... 149
Paracentesis of the thorax, by Mr. Snow.. 111
" " by Dr. Davidson 111
" " by Dr. Pritchard 112
" " &c., by Dr. Bird and Dr. Babington..... 113
Paralysis treated with cantharides..... 52
Payan, Dr., on vesico-vaginal fistula..... 113
Percussion, on, by Dr. Bennett..... 20
" different force employed in.. 20
" to ascertain deep and superficial disease..... 20
" general rules to be followed in 20
" special rules to be followed in 21
Peritonitis treated with opium..... 28
Pharmacopœias, hints from different..... 43
Phloridrine, a new medicine..... 87
Plug, use of, to produce premature labour 162
Polex, M., on taraxacine..... 19
Porrigo, on, by Dr. Davidson..... 115
Portal, Professor, on excision of the callus in badly united fractures..... 128
Premature labour, use of the plug to produce..... 162
Prichard, Dr., on paracentesis..... 112
Retrospect..... 175
Rheumatic dermalgia, on, by Bean..... 76
" " by Dr. Macleod... 77
Rheumatism, on the hot and cold forms, by Dr. Taylor..... 50
Richardson, Dr., on animal heat..... 174
Robinson, Dr. G., on a new way of producing expansion of the chest in asthma, and spasmodic affections of the chest..... 24
Salts, calcareous, in the urine of pregnant women..... 161
Saturation of acids and alkalies, by Mr. Scholefield..... 82
Scammony, mixture of..... 47
Scholefield, Mr., on saturation of acids and alkalies..... 82
Sciatica, treated with turpentine..... 42
" " narcotism..... 62
Seymour, Dr., on paralysis..... 52
Sharpey, Dr., on the membrana decidua.. 174
Shearman, Mr., on a case of rigidity of the os uteri..... 149
Skoda, Dr., of Vienna, reference to..... 13
Smoking in asthma..... 25
Snow, Mr., on asphyxia..... 48
" on paracentesis of the thorax..... 111
Soubeiran, on blistering plaster..... 85
Sounds of the heart..... 13
Stramonium in asthma..... 25
Stone in the bladder, on, by Dr. Willis.. 192
Strictures of the vagina during pregnancy and labour..... 148
Stricture, on, by Arnott, Wade, &c..... 98
" use of alum in..... 145
Sweeting, Mr., on lead in hæmorrhage... 75
Syphilis, inoculation a test of..... 145
Systolic sound of the heart..... 14
Taraxacum, on, by Mr. Houlton..... 18
Taraxacine, on, by M. Polex..... 19
Tavignot, on the subcutaneous ligature of arteries..... 144
Taylor, Dr., on rheumatism..... 50
Teale, Mr., on the operation for obstruction of intestine from stricture..... 107
Tic douloureux, croton oil in..... 78
Todd, Dr., on ice in convulsions..... 67
Toynbee, Mr., on the non-vascular animal tissues..... 170
Trachea, experiments to produce contraction of the, by M. Valentin..... 23
Tracheotomy, on, by Maalhieurat..... 137
Tubercle, on the secretion of..... 164
Turnbull, Dr., on counter-irritants..... 84
Twins, remarkable birth of..... 160
Tyson, on the preparations of antimony.. 26
" " of iron..... 69
Ulcers, treatment of old, by corrosive sublimate, and iodine..... 144
Urine of pregnant women, calcareous salts in..... 161
Vagina, on strictures of the..... 149
Valentin's experiments to produce contraction of the trachea by irritating the par vagum..... 23
Valvular disease of the heart..... 17
Varicocele, on, by Velpeau, &c..... 136
Varix, treatment of, by Velpeau..... 134
Vesico-vaginal fistula, cured by actual cautery..... 113
Vichy, waters of, in calculous affections.. 52
Vomiting, creosote in..... 45
Vulva, treatment of inflammation of the mucous follicles of the..... 143
Wade on stricture..... 101
Watts on the secretion of tubercle..... 164
Watson, Dr., on the sounds of the heart.. 13
" " on asthma..... 25
" " on opium in peritonitis..... 28
Williams, Dr., experiments proving the contractility of the lungs and air tubes..... 23
" on painter's colic..... 47
Willis, Dr., on stone in the bladder..... 192
Womb, on incipient cancer of the..... 35
" pathology and treatment of the.. 36
" on cauterization of the..... 144
" anti-version of the, cured by position..... 151
" on the contraction of the..... 155
" hæmorrhage from, cured by cold water..... 157
" gravid, passing into the sac of inguinal hernia..... 159
Wounds received in dissecting..... 141

END OF PART V.

THE

RETROSPECT

OF

PRACTICAL MEDICINE AND SURGERY,

BEING

A Half-yearly Journal,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

Edited by

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CONTENTS OF NO. VI.

PRACTICAL MEDICINE.

ARTICLE.		AUTHOR.	PAGE.
1.	On Nitrate of Silver	*Dr. Patterson*	9
	On Ioduret of Silver	*Do.*	11
2.	On the Presence of Oxalate of Lime as Characteristic of Certain Forms of Disease	*Dr. Golding Bird*	14
	On the Causes of Oxalate of Lime in the Urine	*Professor Liebig*	17
3.	Treatment of Gravel	*Dr. Watson*	21
4.	General Treatment of Pneumonia at Guy's Hospital	*Dr. Hughes*	25
5.	Use of Indian Hemp in Some Convulsive Disorders	*W. Ley, Esq.*	27
6.	Treatment of Incontinence of Urine	*Dr. Guy*	30
7.	Iodide of Potassium in Acute Hydrocephalus	*Charles Fluder, Esq.*	31
8.	On Sulphate of Zinc in Flatulent Affections of the Colon and in Constipation	*Dr. Strong*	31
9.	On Chlorine in Scarlet Fever	*— Watson*	36
	On the Protecting Influence of Belladonna in Scarlet Fever	*Do.*	37
10.	Prevention and Treatment of Apoplexy and Hemiplegia	*Dr. Marshall Hall*	37
11.	On the Pathology and Treatment of Tubercular Phthisis	*Sir Chas. Scudamore*	40
	Pathology of Tubercle	*Do.*	42
	Of the Softening of Tubercles	*Do.*	43
	Anatomy of the Lungs	*Do.*	44
	On the Inhalation of Iodine	*Do.*	45
12.	Treatment of Acute Rheumatism	*Dr. Hope*	48
13.	On Bleeding From the Urinary Organs	*— Watson*	49
14.	On the Nature and Treatment of Dropsy	*— James O'Beirne*	54
15.	On the Uses of Some of the Combinations of Iodine	*Gerald Osbrey, Esq.*	63
16.	On the Use of Ox Gall	*Dr. Charles Clay*	65
17.	On Cod Liver Oil	*— Ascherson & Klencke*	69
	Skate Liver Oil		71
	Cod Livers, as a Diet	*— Ure*	71
18.	Observations on Creosote	*— Rose Cormack*	72
19.	Mode of Giving Turpentine for Tape Worm	*— Bellingham*	74
20.	Liquor Taraxaci		74
21.	The Potatoe in Sea Scurvy	*W. Dalton, Esq.*	75
22.	Action of Carbonate of Potash on Gum Resins	*—Hulse, Esq*	76
23.	Treatment of Chlorosis	*T. W. B. Kirkby, Esq.*	77
24.	On Emmenagogue Medicines	*Do.*	80
25.	Treatment of Erysipelas	*M. Velpeau*	80
26.	On Some Preparations of Iron	*Dr. John Todd*	81
	Liquor Ferri Potassio-Citratis	*Do.*	81
	Syrupus Ferri Iodidi	*Do.*	81
27.	Useful Form of Syrupus Ferri	*C. R. Aikin, Esq.*	82
28.	Tobacco in Hysteria	*Dr. J. H. Thomson*	82
29.	Treatment of Croup Following Ulcerated Throat	*— R. W. Gibbes*	83
30.	Citrate and Ammonio-Citrate of Iron		84
31.	On the External Application of Croton Oil	*M. Bouchardat*	84
32.	Small pox Before Birth	*Dr. Knoli*	84
33.	Antidote to Corrosive Sublimate	*M. Miahle*	85
34.	Tannin as an Anitdote to Strychnia	*Dr. Ludicke*	85
35.	Extemporaneous Production of Milk	*M. Dichost*	85
36.	On the Effects of Caloric Applied to the Skin	*M. Gondret*	86
37.	On the Proto Ioduret of Iron	*M. Dupasquier*	86
38.	Assafœtida in Hooping Cough	*Dr. Rieken*	86
39.	Effects of Acetate of Lead in Large Doses	*— Alexander Lane*	87
40.	Ergot of Rye in Paraplegia	*M. Payan*	88
41.	On Tinea	*M. Casenave*	88
42.	On a Very Simple Means of Arresting Epistaxis	*Dr. Negrier*	89
43	On the Use of Quinine in Children	*M. Trousseau*	89
44	On the Crowing Respiration	*Dr. Marshall Hall*	89
	Do. Do	*Sir Henry Marsh*	91

SURGERY.

45.	On Diseases of the Urinary Organs	*Sir Benjamin Brodie.*	92
	Stricture of the Male Urethra	*Do.*	92
	Introduction of the Bougie	*Do.*	93
	Treatment of Retention from Spasmodic Stricture	*Do.*	94
	Treatment of Stricture in the Anterior Part of the Urethra	*Do.*	97
	Division of Stricture	*Do.*	99
	Fistulæ in Perinæo	*Do.*	100
	Blind Fistula in Perinæo	*Do.*	100
	Lithotrity	*Do.*	103
46.	On the Treatment of the Hæmorrhagic Diathesis	*James Miller, Esq.*	107
	Ditto Ditto	*Dr. Bennett*	114
	Plaster of Paris, as a Means of Pressure to stop Bleeding after Tooth Extraction	*— Roberts, Esq.*	114
47.	On Mr. Stafford's Treatment of Stricture	*Wm. Coulson, Esq.*	115
48.	On the Topical Application of Iodine and its Compounds	*Dr. James Ross*	118
	Aqueous Solution of Iodine	*Do.*	118
	Tincture of Iodine	*Do.*	118
	Iodine Ointment—Iodide of Potassium	*Do.*	121
	Iodide of Sulphur	*Do.*	123
	Iodide of Mercury—Iodide of Lead—Iodide of Zinc	*Do.*	123
	Iodide of Arsenic	*Do.*	124
49.	Treatment of Syphilis by Tartarized Antimony	*Alfred Smee, Esq.*	125
50.	Strangulated Hernia, Treated by Exhaustion through the Elastic Tube	*C. S. Webber, Esq.*	129
51.	Operation of Autoplasty for the Relief of Contraction from Burns	*Dr. Mutter*	130
52.	Complete Anchylosis Cured by Operation	*— Gibson*	132
53.	New Mode of Treating Strumous Ophthalmia	*— Hocken*	133
54.	On Laryngotomy	*John Hilton, Esq.*	135
	Do.	*Dr. Wilson*	137
55.	Dr. Dunne's Dilating Canula	*— Dunne*	138
56.	New Instrument for Opening the Trachea	*— Milliken, Esq.*	139
57.	On Benzoic Acid in Urinary Diseases	*John S. Soden, Esq.*	140
	Do. Do.	*Dr. Walker*	141
58.	On a New Way of Operating for Cataract	*John Morgan, Esq.*	149
59.	On the Treatment of Entropion	*Dr Beilingham*	144
60.	On Solution of Gum Arabic in Scalds and Burns	*William Rhind, Esq.*	145
61.	On Cysts of the Eyelids	*M. Velpeau*	146
62.	Use of Strychnia in Amaurosis		147
63.	Excision of the Elbow Joint	*M. Robert*	148
64.	Treatment of Sore Nipple		148
	Do. Do.	*— Chavasse, Esq.*	149
65.	Treatment of Gleet	*S. E. Jones, Esq*	149
66.	Antidote to Arsenic	*Dr. Bird*	149
	Lig. Kali Carbonici	*M. Emsmann*	149
67.	Enlarged Patellar Bursa dispersed by Subcutaneous Incision		150
68.	On Keratoplasty, or Transplantation of the Cornea		150
69.	On Cataract	*M. Bonnett*	151
70.	Injection of Belladonna in Strangulated Hernia	*Dr. Fischer*	151
71.	On the Treatment of Hip-Joint Diseases	*Dr. Evans*	151
72.	Preservation of Nitrate of Silver	*M. Dumeril*	152
73	The Bilateral Operation of Stone	*M. Ribes, &c.*	153
74.	Transplantation of a Sheep's Tooth into the Socket of a Child	*Robert Twiss, Esq.*	154
75.	Reunion of Completely Separated Portions of Finger	*Signor Fanteria*	154
76.	On a New Cranial Saw	*M. Bertherand*	154
77.	Surgical Use of the Magnet		155
78.	Treatment of Leucoma by Incision Into the Cornea	*Dr. Holscher*	155
79.	On Mattico as a Styptic	*— Munro*	155
80.	Sudden Formation of Cataract	*— Martin*	156
81.	Treatment of Nævus	*Professor Pattison*	157
82.	Entropion Cured by the Subcutaneous Incision	*Dr. Neumann*	157
83.	On Hare-Lip	*— Houston*	159

MIDWIFERY.

84. On a Peculiar Animal Matter (Gravidine) in the Urine of Pregnant Women.....*Dr. James Stark*.... 160
Do. .....— *Griffith*..... 160
85. Puerperal Fever Arising From the Contagion of Typhus. *W. Humble, Esq*.... 163
86. Pregnancy without the usual signs, and Parturition without Labour Pains.....*T. Lewis, Esq*..... 165
Do .....— *Cripps, Esq*... 165
87. Extirpation of the Uterus.....*M. Rossi*..... 166
88. On Puberty in the Negress.....— *Robertson, Esq*. 166
89. Placenta Retained Eleven Weeks.....*Dr. Scholler*..... 167
90. On Arm Presentation, in which Turning was impracticable *Dr. Lynn*..... 167
91. On Hæmorrhage After Labour, Complicated with Disease of the Spleen and Kidneys.....— *Lever*..... 168

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

92. On the Source of Animal Heat.....*Professor Liebig*.... 169
Do. Do. .....*Dr. Collier*..... 173
93. Ingenious Theory respecting the Use of the Spleen and Vena Portæ.....*Dr. Hargreave*..... 172

RETROSPECT.

PRACTICAL MEDICINE,

&c., &c.

Art. 1.—ON NITRATE OF SILVER.

By Charles Patterson, M. D., Physician to the Rathkeale Infirmary and Fever-Hospital.

The chief object of this paper of Dr. Patterson's is to contradict many of the commonly received opinions of medical men with respect to the mode in which the skin becomes discoloured during the use of this drug, and also to point out a superior way of counteracting this effect. We need not particularize the spasmodic and painful diseases in which this medicine has been found efficacious; epilepsy, chorea, pyrosis, gastralgia, &c., are amongst the diseases which have been particularly alleviated by it. But its discolouring effect on the skin has always been a great objection to its continued administration. Dr. A. T. Thompson, in his Elements of Materia Medica, proposes to counteract this effect by the contemporaneous exhibition of nitric acid, on the principle that it would prevent the formation of chloride of silver. "He supposes that the nitrate is taken into the circulation undecomposed, and, arriving in that state at the capillaries of the skin, it is decomposed there and converted into chloride of silver, which is deposited in the *rete mucosum*. The chloride, he says, acquires a grey, leaden colour from its contact with animal matter; and as it is insoluble, it is incapable of being reabsorbed, is fixed in the rete mucosum, and a permanent stain is given to the skin; and to produce this effect, a more than usual quantity of muriates must be separated by the cuticular capillaries." Vol. i., p. 714.

Dr. Patterson considers this view as entirely erroneous: and says, "It is not easy to comprehend how the nitrate and muriates could be carried quietly together by the blood to the cutaneous capillaries; and then, at the moment of their separation through the mysterious agency of those vessels, that they all at once should react on each other."

Dr. Patterson then gives a series of experiments, to prove that, when nitrate of silver is administered, it is decomposed so easily by different substances that not an atom of that salt, when so administered, is taken into the circulation. He shows that the mere secretions of the stomach, the saliva itself, and the simplest article of diet completely decomposes it, so that we must arrive at the conclusion, that when we prescribe this preparation, it is not the nitrate, but some other combination, which proves beneficial; and this seems to be the *chloride*, as, in all the cases of decomposition related by Dr. Patterson, chlorine seemed to be the active agent: it was present in the saliva, in the aliment and gastric secretions when the nitrate had originally been given. It cannot be

objected that the insolubility of the chloride would prevent its curative effects, as many other substances, equally insoluble, are known to be sufficiently active, as calomel, ioduret of mercury, sulphur, subnitrate of bismuth, red sulphuret of mercury, and even charcoal, which has been successfully employed in the treatment of ague. If, therefore, the chloride be the active preparation, it would seem to be the preferable practice to prescribe it in the first instance, but in doing this we should encounter the very danger we so much dread.

Dr. Patterson does not even allude to the interesting papers of Mr. Lane, which have been from time to time published, and which will be seen in Art. 75, Retrospect, No. ii., and Art. 5, of No. iv. This gentleman is of the same opinion as Dr. Patterson, that the nitrate is converted into a chloride, and explains it, by supposing that this is accomplished by the free hydrochloric acid of the gastric juice. Mr. Lane then supposes that the chloride is taken up into the circulation, and when conveyed to the cutaneous surface, is converted into an *oxide* by the action of light and the strong affinity of albumen. This oxide cannot apparently permeate the capillaries, and becomes indelibly fixed, occasioning the dreaded disfigurement. Mr. Lane, therefore, advises that the chemical process just mentioned should be *anticipated*, and the silver be primarily introduced into the stomach as an *oxide* instead of a *nitrate*, for since the cutaneous capillaries are not permeable to its egress when once deposited in the skin, as is the bile in jaundice, neither should we expect them to be permeable for its ingress. At the same time we must admit, if Mr. Lane's theory be correct, that the whole value of the oxide depends upon whether it can make its way to the surface or not, for if it can do so, the evil of discolouration would not be diminished by the process recommended by Mr. Lane. We, therefore, think the observations of Dr. Patterson exceedingly valuable when he speaks of the preparation of the ioduret, as will be presently seen. His observations on the *cause of discolouration* are as follows:]

The immediate cause of discolouration, as well as that of its permanency, is wrapped in considerable obscurity. Dr. A. T. Thompson, as we have seen, conceives the blue tint to be the colour of the chloride, developed by its contact with animal matter. But chloride of silver, which, prepared and preserved without exposure to light, is perfectly white in open day, when entirely unconnected with animal or vegetable matter, has its surface quickly covered with a beautiful bluish purple hue: therefore, the alteration of colour is wholly independent of the presence of any organic principle. Neither can the permanency of the stain be owing to the insoluble nature of the chloride and its supposed consequent incapability of absorption. For that it is acted on by the absorbents of the stomach, I think is evident from what has been already said; besides the entire skin is not always blackened—therefore, it may be presumed that it must be reabsorbed from those portions of the surface of the body which do not suffer discolouration. From these considerations, I am induced to think that chloride of silver is not the colouring ingredient on which the blackness of the skin depends. When the chloride is exposed to the sun's rays, their action extends no deeper than its very surface: and whether that preparation is in mass, or divided into minute particles, the newly-formed coloured substance constitutes the thinnest imaginable superficial film, within which the chloride remains white and unchanged. During the formation of this film, the chloride of silver parts with chlorine. If the white chloride be exposed to the sun, in the exhausted receiver of an air pump, or even in a bottle, free chlorine may be detected. This was long ago noticed by Berthollet. It shows a chemical change of constitution; and as the purple film is the only part sensibly changed, it may

therefore be presumed to be that which has been chemically altered. Taking advantage of the free solubility of pure white chloride of silver in water of ammonia, I have been able to obtain this purplish matter separate, but in very small quantity. It is in the form of powder of such extreme exility that it remains for a considerable time suspended in the liquor of ammonia. Its colour is very dark, its previous bright tint having been owing to the reflection of the subjacent white chloride. It is insoluble in ammonia, by which and by its colour it is distinguished from the only known combination of chlorine and silver. Berthollet supposed it to be oxide of silver: but that cannot be the case, for oxide of silver has a reddish brown colour, and is soluble in solution of pure ammonia. It appears to be pure metallic silver in a state of extreme disaggregation; at least such appears to be its state previous to exposure to the action of ammonia.

The discolouration of the skin, then, is most probably owing to the decomposition of the chloride of silver, circulating in the cutaneous tissue through the chemical action of the sun's light, and the deposition there of its metallic basis. All persons are not subject to this accident; for the influence of the sun's rays can only be effective in those cases where the cutis is more than ordinarily vascular, and is clothed in a thin transparent cuticle.

[Dr. Patterson then makes his remarks on what we should deem a valuable preparation, the ioduret of silver, provided that subsequent experience corroborates the statements here made.]

Ioduret of Silver.—It had been for some time occurring to me that the true way of preventing all risk of discolouration of the skin, would be to substitute for the nitrate some preparation of silver, not liable to be acted on by chlorine, or the sun's light. And happening lately to be employed in some photographic experiments, my attention was arrested by the property displayed by solutions of hydriodate of potash in rendering nitrate of silver insensible to the influence of the sun's rays. I saw when a piece of paper was washed with solution of nitrate of silver, and then immediately immersed for a few seconds in a solution of hydriodate of potash, its colour, even when exposed to the strongest sunshine, to remain unaltered. It was evident, in this process, the hydriodate and the nitrate were both decomposed, and that an ioduret of silver was the result. Ioduret of silver then appeared to be capable of resisting the chemical action of light, and at once suggested itself as a substitute for the nitrate: but it remained to be determined whether in contact with animal matter or medicinally administered in combination with chemical agents, it would retain that power. And to ascertain that point, I executed the following experiments:

I mixed the ioduret with various animal and vegetable substances—with lard, white of egg, saliva, serum of the blood, with bread reduced to pulp, mucilage of gum arabic, mucilage of starch, simple syrup. I submitted it to the action of different chemical agents, letting it lie for several hours in solutions of muriate of soda,* subcarbonate of potash, subcarbonate of soda, dilute muriatic acid, and in vinegar. I then exposed each parcel experimented on in a large window, having a southern aspect, to the full action of the summer's sun for several days; and in no instance was there the least darkening or change of colour perceptible.

Having thus satisfied myself as to the chemical habitudes of the ioduret, my next endeavours were applied to ascertain its therapeutic effects. The first and principal class of diseases, in which I had opportunities of administering it, were those various stomach affections to which the Irish peasantry are so very liable. It is in these affections, I believe the internal use of nit-

* It is stated in systematic works on chemistry, that all the iodides are decomposed by chlorine. This is not true of the iodide of silver; at least, neither strong nor dilute muriatic acid, nor solution of muriate of soda, has any effect on it.

rate of silver has been found to be most generally successful. They, therefore afford the best criterion whereby to judge of the comparative efficacy of the ioduret. In such cases it will be seen that it has been almost uniformly beneficial. In epilepsy the result has not been so satisfactory; but having been able to administer it in only two cases, it has not had a fair trial in that disease. In hooping cough it has had variable success. But where that complaint was uncomplicated with fever or bronchitis, I think the ioduret produced an immediate improvement in the spasms, and hastened the final abatement of the cough. On the whole, the short time that has elapsed since I began to make use of this preparation, has not afforded me sufficient opportunities to form an absolute opinion as to its merits. However, I have had so much experience of its effects, as just makes me anxious that other practitioners should give it a trial.

[On looking over the cases related by Dr. Patterson, we find them similar to those in which the ordinay preparations of nitrate and oxide of silver have been beneficial, and chiefly in gastric affections, in which the ioduret was given in doses of one-eighth increased to one-fourth of a grain three times a-day. In the gastric affections relief was soon procured, but in epilepsy the remedy was administered irregularly for many weeks, at first in quarter grain, then half grain, and ultimately grain doses, three times a-day. The general dose, however, seems to have been a quarter of a grain. The following remarks of Dr. Patterson are also very interesting:]

Removal of Discolouration of the Skin.—In experimenting on the chemical action, under various circumstances, of iodine on silver, I observed the following facts:

1st. A small quantity of precipitated chloride of silver having been mixed with hog's lard, the mass was spread on a card, and exposed to the sun's light. In a short time, it acquired first a leaden, and then a dark brown colour. I then let fall on its surface a single drop of solution of hydriodate of potash, and again exposed it to the sun's rays. In less than an hour, the spot wetted with the solution became yellow; and for two or three days, under the action of a bright summer's sun, continued to bleach paler and paler, until it became of the lightest canary tint.

2d. The bread crumb reduced to pulp, with solution of nitrate of silver, and remaining on the filtering paper was placed in the sun's light, when it soon became hard, and dry, and blackened, forming a thin lamina spread over the paper. A portion of it was moistened with solution of hydriodate of potash, when, in a little time, its colour altered to a light orange red, which it retained, though exposed for upwards of a month to a strong light. At the end of the month, the whole paper having been so exposed, I applied more solution of the hydriodate to another portion of the blackened part, and in about ten minutes it assumed a light yellow hue, with a reddish tint.

3d. I took a napkin, on which my own name was written with "indelible marking ink," made of nitrate of silver. The napkin, with the name so written, had been several months in use. Having carefully removed from the written part, by washing, the starch with which the cloth was made up, and wet the name with solution of hydriodate of potash, but the writing remained unaltered. Conceiving that, from the influence of soap and starch, and vegetable fibre, on the nitrate of silver in the writing, that metal had entered into some new combination, which rendered it incapable of decomposing the hydriodate, it occurred to me to present the iodine in a nascent state. I, therefore, wet the part several times, alternately with dilute sulphuric acid, and the solution of hydriodate; and perceiving the letters to be growing pale, I mixed some of the dilute acid, and of the solution in a cup, in which the

marked portion of the napkin having been immersed for five minutes, every vestige of the name disappeared.

4th. My fingers were stained with the nitrate of silver. I wetted and rubbed them with some of the solution of the hydriodate of potash, and in a few seconds the stains were removed, except in some parts where the skin had been cauterized by contact with the solid caustic. I then moistened part of my arm with solution of subcarbonate of soda; when dried by exposure to the air, I again moistened the same part with a solution of a sample of the nitrate in an ounce of distilled water, and held it uncovered in the sun, until it became black. I then washed it with solution of the hydriodate of potash, when immediately the stain cleared off, as if it had only been a simple soil.

From these experiments the inference is obvious, and there can scarcely be a doubt that in those cases, where the skin has become discoloured from the long use of the nitrate of silver, the discolouration may be removed by the internal and external employment of suitable preparations of iodine.

Preparations of Iodurel of Silver.—Iodurel of silver is easily obtained by adding to a solution of the nitrate in distilled water, a solution of hydriodate of potash, in atomic proportions. If one hundred and sixty four grains, or one proportional of iodurel of potassium, be dissolved in two or three ounces of distilled water, and one hundred and seventy-two grains, or one proportional of nitrate of the oxide of silver, be dissolved in two or three other ounces of distilled water, on mixing the solutions, two hundred and thirty-four grains, or one proportional of iodurel of silver are precipitated. The whole is to be then thrown on a filter, and the iodurel of silver should be washed with repeated affusions of rain, or distilled water, and then dried in the sun, or before a fire. If the iodurel of silver, so formed, be in the slightest degree contaminated with any nitrate of silver remaining undecomposed, the former will be liable to discolouration. It is best then to use the iodurel of potassium in very slight excess; and for facility of practice, equal weights of each salt may be employed. Iodurel of silver, thus prepared, is a soft, rich-looking, granular powder, having the beautiful pale, greenish-yellow colour of the canary bird. Like calomel it has neither taste nor smell, and is insoluble in water; it resists the action of diluted nitric, muriatic, and acetic acid, of the alkaline subcarbonates, and of hydrochlorate of soda; and it is very sparingly soluble in solution of hydriodate of potash.

Mode of Exhibition.—From the insoluble nature of the iodurel of silver, and the smallness of its dose, the form of pill seems best adapted for its exhibition. It should be reduced to the state of the finest possible powder, which is not easily effected, or account of its possessing a certain degree of coalescence that causes it to adhere to the pestle. For that reason, and for its more exact subdivision, it is necessary to triturate it with a few grains of some compatible salt. It is also of advantage to add a little liquorice powder to give some bulk to the pills, and a little sugar or syrup to prevent them from becoming too hard. The following is the formula which I have employed:

℞. Iodureti Argenti; Nitratis Potassæ ana grana decem, tere simul ut fiat pulvis subtil, dein adde; Pulv. Glycyrrhizæ, ℥ss.; Sacchari Albi, ℈i.; Mucil. Arab. q. s. M. fiant pil. xl., quarum æger sumat unam ter in die.

Dublin Medical Press, Aug. 25, 1842, *p.* 113.

2.—ON THE PRESENCE OF OXALATE OF LIME, AS CHARACTERISTIC OF CERTAIN FORMS OF DISEASE.

By GOLDING BIRD, A.M., M.D., F.L.S., &c., &c.

[It has often surprised those who have paid attention to this subject, that oxalate of lime is but seldom found deposited in the urine, even when calculi of oxalate of lime exist. Even Dr. Prout scarcely refers to the subject of the deposition of the oxalate of lime, and seems inclined to adhere to the popular opinion of the intimate connexion between the presence of saccharine matter and the development of oxalic acid. Dr. Golding Bird, was first led to question the accuracy of the generally received opinion of the extreme rarity of the presence of oxalic lime in a crystalline form, during his examination of urinary deposits preparatory to the publication of his paper in the 14th No. of Guy's Hospital Reports. Since that time he has discovered that oxalate of lime is frequently present in urine in certain forms of disease characterised by a great nervous irritability. This fact will probably be of great use to us in the treatment of certain obscure and tedious affections generally referred to dyspepsia, hypochondriasis, and other analogous ailments. So far from the deposit of oxalate of lime being an unfrequent phenomenon, Dr. Bird says that "It is of more frequent occurrence in urine than the deposits of earthy phosphates."]

To examine urine for the purpose of detecting the existence of the salt under consideration, allow a portion passed a few hours after a meal to repose in a glass vessel; if this be done in winter, or during the prevalence of frequent and rapid alternations of temperature, a more or less dense deposit of urate of ammonia will generally make its appearance arising either from the sudden cooling of the urine, or from interference with the functions of the skin prior to its excretion. In warm weather, however, or when the functions of the skin are toleraby perfect, the urine albeit may be loaded with oxalate of lime, may still appear limpid, or, at furthest, its lower layers only be rendered opaque by the deposition of a cloud of vesical mucus. Decant the upper 6-7ths of the urine, pour a portion of the remainder into a watch-glass, and gently warm it over a lamp, in a few seconds the heat will have rendered the fluid specifically lighter, and induced the deposition of the crystals of oxalate, if any were present; this may be hastened by gently moving the glass, so as to give the fluid a rotary motion, which will collect the oxalate to the bottom of the capsule. The application of warmth serves also to remove the obscurity arising from the presence of urate of ammonia, which, as is well known, is readily dissolved by exposing urine containing it to a gentle heat. Having allowed the urine to repose for a minute or two, remove the greater portion of the fluid with a pipette, and replace it by distilled water. A white powder, often of a glittering appearance, will now become visible, and this, under a low magnifying power, as by placing the capsule under a microscope furnished with a half-inch object-glass, will be found to consist of splendid crystals of oxalate of lime, in beautifully formed octohedra, with sharply defined edges and angles. It sometimes occurs that the oxalate is present in the form of exceedingly minute crystals: it then resembles a series of minute cubes, often adhering together like blood-discs; these, however, are readily and rapidly dissolved into octohedra under a higher magnifying power.

This process is by far the most satisfactory, and, although it requires a little tact, still, after a few trials, it can readily be performed in a very few minutes: still, even this may be avoided by placing a drop of the lowermost stratum of the urine on a plate of glass, placing over it a fragment of thin glass or mica, and then submitting it to the microscope: the crystals diffused through the fluid will then become beautifully distinct. In this way, however, it is

obvious that very much fewer are submitted to examination than by the former process.

It is a very remarkable and interesting circumstance that this salt, although I have now examined a large number of specimens of urine containing it, has never subsided to form a distinct deposit; remaining for days diffused through the fluid even when present in so large a quantity that each drop of the urine when placed under the microscope was found loaded with the crystals. If, however, any substance capable of constituting a nucleus be present the oxalate will be deposited around it, although scarcely in cohering masses, and always colourless and beautifully transparent. If, as occasionally occurs, a specimen of oxalic urine happened to contain an excess of triple phosphate, the crystals of this salt are found mixed with those of the oxalate. I have also found the octohedra beautifully crystallized on a hair accidentally present in the urine, like sugar-candy on a string. The reason why a large quantity of oxalate, when present, escapes the eye, arises, I suspect, from its refractive power approaching that of urine; for whenever we meet with a specimen in which the salt has partially subsided and replaced the decanted urine by distilled water, the crystals often become readily perceptible to the unaided eye, resembling so many glistening points in the fluid.

The crystals of the oxalate, when collected in the manner above directed in a watch-glass, are unaltered by boiling either in acetic acid or solution of potass. In nitric acid they readily dissolve without effervescence. The solution may be watched under the microscope very readily. When the oxalate is allowed to dry on a plate of glass and then examined, each crystal presents the curious appearance I described in Guy's Hospital Reports, resembling two concentric tubes, with their angles and sides opposed, the inner one looking transparent, the outer black, so that each resembles a translucent cube set in a black frame. This is best seen under a half-inch object-glass: with a higher power this appearance is lost.

In a very few cases the oxalate is met with in very remarkable crystals, shaped like dumb-bells, or rather like two kidneys with their concavities opposed, and sometimes so closely approximating as to appear circular. These crystals are produced, in all probability, by a zeolitic arrangement of minute acicular crystals. I have as yet met with but three cases in which this variety was present. One of these was under my care for some months; and I had repeated opportunities of examining the urine. The remarkable crystals now referred to became in all mixed with, and ultimately replaced by, the ordinary octohedral variety.

[The greatest possible difference of size of these crystals seems to exist, in a single drop of urine some of the crystals being five or six times larger than others. In most cases, the urine is of a fine amber hue, often darker than in health, but never presenting an approach to the greenish hue described by Dr. Prout. "In many instances a deposit of water of ammonia occasionally tinted pink by purpurine, fell during cooling." "In more than half the cases the oxalate of lime was found unmixed with any other saline deposit; in a very few crystals of uric acid were found from the first mixed with the octohedra of oxalate of lime, and in nearly all the successful cases this acid appeared in the course of the treatment, and ultimately replaced the oxalate altogether at a period generally contemporary with the convalescence of the patient." No instance has yet been perceived of a complication of this oxalic affection with granular degeneration of the kidneys, "out of eighty-five cases, the oxalate was present unmixed in forty-three cases, mixed with urate of ammonia in fifteen cases, with uric acid in fifteen, with triple phosphate in four, phosphate deposited by heat eight." In no instance has Dr Bird yet found sugar present in oxalic urine, although he commenced

his investigations with a strong bias in favour of the common opinion that there was a close connexion between the presence of saccharine matter and oxalic acid.

Now what is the source of the oxalate of lime? Dr. Bird says]

It is scarcely possible to avoid being impressed with the very probable physiological relation between oxalic acid and sugar: we know that the latter substance forms a considerable item in our list of aliments; we know that the great majority of farinaceous matters are partially converted into this element during the act of digestion; and it is indisputable that, under certain circumstances, it finds its way into the blood, and is eliminated by the kidneys; and lastly, we know that, under certain morbid influences, the great proportion of our food may, whilst in the stomach, be converted into sugar, which becoming absorbed, rapidly passes through the circulation, and is thrown out of the system of the kidneys as an effete matter, with the effect of producing more or less rapid emaciation, and in most cases leading to fatal marasmus. Then, recollecting the facility with which sugar and its chemical allies, as starch, gum, and wood fibre, are under the influence of oxydizing agents, converted into oxalic acid, and having sufficient amount of evidence to prove that when oxalic acid is really found in the urine, symptoms bearing no distant relation to those of a diabetic character are met with, we are almost inevitably led to draw the induction that the oxalate of lime found in the secretion owes its origin to sugar, and to locate the *fons et origo malorum* in the digestive organs. This appears to be nearly the view adopted by that very excellent authority in these matters, Dr. Prout; and thus to a great extent are we led from his reasoning to explain the two classes of cases which he has included under his oxalic diathesis; the one including those in which, from symptoms, he suspects the presence of oxalic acid, and the others including the cases in which all doubt was removed by the presence of calculous concretions.

Excluding the cases to which Dr. Prout has referred, and confining our consideration to those which I am now endeavouring to draw attention to, the following facts may be stated as fully borne out by the observations I have made:—

1. That in the urine under consideration oxalate of lime is present, diffused through the fluid, and in a crystalline form.

2. That in rather more than one-third of the cases, uric acid or urates existed in large excess, forming the greater bulk of the existing deposit.

3. That in all there exists a greater proportion of urea than in natural and healthy urine of the same density; and in nearly 30 per cent. of the cases, so large a quantity of urea was present, that the fluid crystallized into a nearly solid mass on the addition of nitric acid.

4. That the urate of ammonia found in the deposits of oxalic urine is occasionally tinted of a pink hue.

5. That an excess of phosphates frequently accompanies the oxalate.

6. That no evidence of free sugar has occurred in the specimens I have examined.

Every one is now tolerably familiar with the compositions of the urine in diabetes, and it has been determined, from great observation, that, as a general rule, diabetic urine very seldom contains an excess of urea, uric acid, or urates, especially the pink variety; and that this secretion is remarkably free from saline deposits; the increased specific gravity depending upon the presence of large proportions of sugar. In the oxalic urine under consideration, the density *increases with the quantity of urea*, which is often present in very large excess; deposits of uric and urates are frequent; and, further, no analogy whatever with saccharine urine exists, save in density; which we have already learned depends upon a totally different cause. Thus, so far as

the abstract examination of the urine is concerned, not the slightest countenance is given to the idea of there being any relation between oxalic and saccharine urine, however much our preconceived and hypothetical views may have led us to expect the existence of such relation. What, then, is the source of the oxalate of lime? and how can its production be explained consistently with the phenomena presented by the urine? From the cases detailed in this paper, we shall have no difficulty in proving to a demonstration, the positive and constant existence of serious functional derangement of the digestive organs, especially of the stomach, duodenum, and liver; and, further, that the quantity of oxalic acid generated is, to a very considerable extent, under the control of diet; some articles of food at once causing the excretion of this substance in very large quantities, whilst others appear to have the effect of nearly totally checking it. These circumstances alone, together with the emaciation so generally present in the disease under consideration, at once prove, that whatever be the immediate agent which causes the kidneys to receive the oxalic acid from the blood, that the primary cause must, as Dr. Prout has well and satisfactorily shown, be referred to the digestive and assimilated functions. It must, then, be recollected that an excess of urea, and often of uric acid, in most instances accompanies the development of the oxalic urine. It is, therefore, highly probable that both these unnatural states of the secretion are produced by the same morbid influence; and, further, when the very remarkable chemical relation existing between urea, uric acid, and oxalic acid, is borne in mind, as well as the readiness with which the former are converted into the latter, is it not a legitimate conclusion to suppose that the disease under consideration ought to be regarded as a form of azoturia (of which an excess of urea is the prevalent indication), in which the vital chemistry of the kidney has converted part of the urea into oxalic acid? This view appears to me to be supported by what I have observed of the history, symptoms, and progress of the cases, as contrasted with the changes presented by the urine during treatment.

Medical Gazette, July 22, 1842, *p.* 638.

[Professor Liebig, in his Physiological and Pathological Chemistry, traces the source of oxalic acid, not to any transmutation in the elements of sugar, but to the oxidation of uric acid; and the only difference between this opinion and that of Dr. Bird, seems to be, that whilst Liebig considers the oxalic acid the result of the oxidation of uric acid, Dr. Bird attributes it to the re-arrangement of the elements of urea, giving up at the same time an atom of oxygen. The only question is, not whether oxalic acid is generated from sugar, but whether uric acid or urea is its source? This, however, is not of much consequence in a practical point of view. We are not able, from our limited experience in these cases, to give a very satisfactory account of the symptoms which attend them.]

The patients, however, are generally remarkably depressed in spirits, and their melancholy aspect often enables us to suspect the presence of oxalic acid in the urine; I have never witnessed the lurid, greenish hue of the surface to which Dr. Prout has referred. They are generally much emaciated, except in slight cases, extremely nervous, and painfully susceptible to external impressions, often hypochondriacal to an extreme degree, and in the majority of cases, suppose they will fall victims to consumption. They complain bitterly of incapability of exerting themselves, the slightest exertion bringing on fatigue. In temper they are irritable and excitable; and in men the sexual power is generally deficient, and often absent. A severe and constant pain, or sense of weight, across the loins is generally a prominent symptom. The mental faculties are generally but slightly affected, loss of memory being sometimes more or less present. Well marked dyspeptic feelings are always

complained of. Indeed, in most of the cases in which I have been consulted by their medical attendants, I have been generally told that the patient was ailing, losing flesh, health, and spirits daily; or remaining persistently ill and weak, without any definite or demonstrable cause. In a few the patients have been suspected to be phthisical. It is, however, remarkable that I have never yet met with a case of this disease in which phthisis was present.

Regarding the *causes* of the secretion of oxalic acid, they were, in the majority of cases at least, generally well marked; and in nearly all, the predisposing cause was nearly the same, viz. a chronic and persistent derangement of the general health, or the result of previous acute disease, dyspepsia, injury to the constitution by syphilis and mercury, by child-bearing and overlatation, by venereal excesses and intemperance. The exciting cause has generally consisted in some circumstance which has determined the irritation to the urinary organs. Of these, exposure of the lower part of the spine to cold, mechanical violence inflicted over the kidneys, unnatural excitement of the genital organs, as shown by the frequent occurrence of involuntary seminal emissions, or irritation from passing a bougie, have most generally constituted at least the most apparent exciting cause. In many cases, however, no other obvious cause existed than great mental anxiety, produced often by extreme attention to business some time previously.

The pathological cause of many of these symptoms, as well as the loss of strength and emaciation present in these cases, is in all probability to be partly explained by the relation existing between the essential azotised element of our food (at least that derived from the animal kingdom, and in part from the vegetable), viz. the protein of Mulder, and the uric acid or urea, which on one of the two hypotheses to which I have adverted, is generated, to appear in the urine as oxalic acid. Professor Liebig has indeed shown that the production of the characteristic ingredients of animal secretions is less to be regarded in the light of a generation of new matter, than of the rearrangement of the elements of principles with which we have been long familiar. Thus it appears that two atoms of blood added to two of oxygen and two of water, contain the very same elements as one atom of choleic acid, the essential ingredient of bile, and two of urate of ammonia. Consequently it is fair to presume that the conversion of blood into the most important ingredients of the urine and bile, by producing a drain upon the system, aids, at least, the emaciation of the patient. I have, however, shown, by numerical data, that in addition to the oxalic acid, a great excess of urea was generally present in the urine; and it is a very remarkable circumstance that the elements of blood and muscular flesh, with the addition of oxygen and water, are identical with those of urea, bile, carbonic acid, and ammonia, being substances which are eliminated from the circulating mass, or produced by the metamorphosis of tissues, and thrown out of the system by the kidneys, liver, lungs, and skin; so that the disease under consideration may be regarded as a case in which the demand for nutriment in the body exceeds the supply. Thus, if we take the empirical formula of dried fresh blood, or muscular flesh, for they are identical, as assumed by Liebig (from the analyses of Playfair and Bokmann), we shall be struck by the remarkably close relation borne by the ingredients of the secretions to which I have alluded, to the pabulum whence they are generated.

	C.	N.	H.	O.
2 atoms blood, - - - - - - - -	=96	× 12	× 78	× 30
10 atoms water, } - - - - - - - -	=			10 × 24
14 atoms oxygen, }				
	96	× 12	× 88	× 54

	C.	N.	H.	O.
1 atom choleic acid (essential ingredient of bile),	=76×	2×	66×	22
4 atoms urea,	= 8×	8×	16×	8
12 atoms carbonic acid,	=12			24
2 atoms ammonia,	=	2×	6	
	96×	12×	88×	54

Treatment.—This, in the majority of cases, has been very successful; a few only resisting all the plans which were adopted. As a general rule, the functions of the body, where obviously imperfect, should be corrected, the general health attended to by the removal of all unnaturally exciting or depressing influences, the skin should be protected from sudden alternations of temperature by a flannel or woollen covering, and the diet carefully regulated. This has generally consisted of well-cooked digestible food, obtained in about equal proportions from the animal and vegetable kingdom; all things which tend to produce flatulence should be carefully avoided. The drink should consist of water, or some bland fluid, beer and wine being excluded, especially the former, unless the patient's depression render such positively necessary. A very small quantity of brandy in a glass of water has generally appeared to be the most congenial beverage at meals. The administration of nitric acid, as suggested by Dr. Prout; or what appeared to be preferable, the nitro-hydrochloric acid, in small doses, in some bitter infusion; or, when necessary, laxative mixture, was, with minute doses of mercury, generally successful, if continued a sufficient length of time. In cases where these failed, active tonics, especially the sulphate of zinc, appeared to be of great service, by subduing the irritable state of the nervous system. The shower-bath, by acting in a similar manner, has also been of great service. There is one remedy which appears to exercise a marked influence over the characters of the urine, and which, from the small amount of experience I have had with it, seems to hold out the probability of its great utility in the disease under consideration: I allude to the colchicum, which, it is now generally admitted, exerts an immense influence over the organic system of nerves, and the functions under its control. The character of the urine is remarkably influenced by this drug, an excess of uric acid generally being present during its administration; and in two cases, in which oxalate of lime existed in abundance before its employment, uric acid appeared in a few days as a deposit, and nearly entirely replaced the oxalate; a circumstance generally observed during the successful treatment of this disease by other remedies. In no case have I seen the disease suddenly yield; it has generally slowly disappeared *pari passu* with the decrease in number and size of the crystals of the oxalate.

[The following case, is brought forward by Dr. Bird, amongst others, as an illustration of the practical value of a knowledge of this subject.]

On February 15th of the present year, I was consulted by Mr. W. Stone, in the case of Mr. B——, a gentleman residing in a densely populated district on this metropolis. He was a remarkably fine man, about thirty years of age, of dark complexion, and whole expression strongly characteristic of deep melancholy; he was highly educated, and appeared to have painfully susceptible feelings. It appeared from his history that, until within the last four years, his health had been excellent; at that time he contracted a sore, which was regarded as syphilitic, and so treated, with, *inter alia*, abundance of mercury and iodine, which appeared to have aided in bringing on an extremely cachectic condition. Partly recovering from this, he left England on an eastern tour. He visited Malaga, Egypt, and returned to England *via* Constantinople. At each of these places he underwent treatment for what

he regarded as a return of venereal symptoms, apparently only manifested by relaxation of the throat producing a hacking cough. At the latter place he fell under the care of Dr. Mac Guffog, who evidently took a very correct view of his case, and he received decided benefit from his treatment. At last, wearied and dispirited, with an irritable throat, bearing about with him what he regarded as a venereal taint, and tired with wandering, he returned to England, a prey to the most abject hypochondriasis. When I saw him his naturally expressive countenance indicated despair: he complained bitterly of the inefficacy of medicine, and seemed only to doubt whether he were doomed to die of syphilis or phthisis. The pulse was quick and irritable; tongue morbidly red at the tip and edges, and covered in the centre with a creamy fur. He had lately lost much flesh; he was troubled with a constant hacking cough, which evidently depended on an enlarged uvula; for on examining the chest I could not succeed in detecting any evidence of disease. There was extreme palpitation, increased by eating and by exercise, much flatulent distention of the colon, with pain between the shoulders, across the loins, and over the region of the stomach; extreme restlessness, and nervous excitement, accompanied every action. The bowels were inclined to be constipated; urine copious; appetite rather voracious, but unsatisfying; skin acted imperfectly.

Feb. 15th.—The urine passed last night was acid, pale, of specific gravity 1.0295, contained much mucus, with abundance of flesh-coloured urate of ammonia in suspension. On warming a portion, so as to dissolve the latter, a very copious crystalline deposit of oxalate of lime, in *cuboid* crystals, was rendered beautifully visible by the microscope. A large excess of urea was present, the addition of an equal bulk of nitric acid rendering some of the urine placed on a watch-glass nearly solid in ten minutes. The urine passed this morning was precisely similar.

℞ Acid. Nitrici Acid. Hydrochlor. aa. ℥j.; Inf. Serpentariæ, ℥xj.; Syr. Zinzib. ℥j.; M. capt. ℥j. ter die.

℞ Ext. Aloes Pur. ij.; Conf. Opii. gr. iij. M. ft. pil. o. n. s.

Allowed a bland nutritious diet, with three glasses of old sherry daily: no vegetables, butter, or sugar.

He continued this treatment patiently and persistently until March 20, when he was so much better that he desired to take a country trip. I discontinued his medicines, and ordered him a mild tonic aperient draught occasionally.

Medical Gazette, Aug. 12, 1842, p. 749.

[Several other extremely interesting cases are related, which we have not space to detail, but we would strongly advise the reader to refer to the original papers and cases, if he have an opportunity. In another case, the patient complained of intense pain across the loins: he had led a very active life, but not an intemperate one, eating, however, at times voraciously; any indiscretion in diet would aggravate this pain considerably, and on such an occasion he was completely crippled, although, by making a powerful effort, he could sometimes manage to walk. He became subject to the most distressing hypochondriasis, looking at all occurrences in the most unfavourable light.]

May 1st. The urine passed last night was pale amber-coloured; it contained much mucus, was acid, did not coagulate by heat; it contained in diffusion a large quantity of urate of ammonia, which, on the application of heat, dissolved, and left a copious deposit of lozenges of uric acid, mixed with cohering crystals of that substance in the form of crystalline gravel; its specific gravity was 1.026: it did not coagulate by heat, but contained an ex-

cess of urea: on the addition of nitric acid, it in a few seconds became filled with fine crystals of nitrate of urea.

The urine passed this morning was of specific gravity 1.024, and in other respects resembled the night urine.

℞ Hyd. c. Creta, gr. iss.; Ipecac. Pulv. gr. j. ft. pilula o. n. s.

Omit all beer and spirits, as well as fatty and indigestible articles of food. Plain diet with animal food once daily.

8th. Much the same; the bowels had acted with copious bilious discharges; pain still intense; depression very great. The urine passed last night was of specific gravity 1.030; it was acid, pale, contained abundance of urate of ammonia, which by heat, disappeared, leaving distinctly visible under the microscope, a copious deposit of oxalate of lime in minute *cubes*, mixed with an abundance of nucleated epithelium: no uric acid. On the addition of nitric acid, the urine almost immediately solidified from the copious crystallization of nitrate of urea.

The morning urine was of specific gravity 1.027. It contained a great excess of urea, and resembled the night urine in every particular, except that the urate of ammonia was tinted with pink, and the crystals of oxalate of lime were much larger, being fine octahedra.

℞. Acidi Nitrici, *m*iij.; Acidi Hydrochloric, *m*vj. ter in die ex cyatho Inf. lupuli, sumend.:

9th. The urine was sent to me; that passed last night was healthy in colour; quite limpid; sp. gr. 1·027. Under the microscope it appeared full of fine octahedra of oxalate of lime. That passed this morning resembled it in every thing, save in its lower specific gravity, being 1·021. Both contained excess of urea.

16th. Very much improved. He has been quite free from pain for several days; is in excellent spirits. He has taken more exercise, having been out rook-shooting the whole week, and been "living well."

Last night's urine was of sp. gr. 1·022. No visible deposit. Under the microscope a few small octahedra of oxalate of lime, mixed with cylinders of uric acid, were visible. The specimen passed this morning was of sp. gr. 1·017, and contained still few crystals of the oxylate.

23rd. Appears completely well in health and spirits; is now cheerful, and free from pain. The urine passed this morning contained no oxalate; had a slight deposit of uric acid in lozenges, but was still rather too high in specific gravity, being 1·024.

Medical Gazette, Aug. 19, 1842, *p.* 794.

3.—TREATMENT OF GRAVEL.

By Dr. Watson, Lecturer on the Practice of Medicine, King's College, London.

[The following outline of the treatment of the several kinds of gravel, will perhaps refresh the memories of some of our readers. We need not say how important it is in all these cases to pay particular attention to the urine, as it is upon the accurate knowledge of the different kinds of this excretion that the successful treatment of calculus in the kidney, stone in the bladder, and the different kinds of gravel must depend. Dr. Watson says with reference to this subject:]

You know, probably, that the urine voided by a person in health always exhibits *acid properties*, always turns litmus paper red. Not that healthy urine contains a free acid; but only (according to Dr. Prout, who is the

great authority in these things,) that certain of the alkaline and earthy bases are not exactly neutralized, but exist in the state of supersalts. The pure lithic acid is nearly insoluble; but the lithate of ammonia is very readily soluble: and it is this which reddens the vegetable blues. Now, whether out of the body or within it, the lithate of ammonia will, of course, be decomposed, if any acid be present in the urine, for which ammonia has a stronger affinity than it has for the lithic acid: and the latter will be thrown down, in the form of a red sand: little crystals, in point of fact, they are very much like in shape, size, and colour, to particles of Cayenne pepper. I shew you some collected by one of my out-patients at the hospital. He must have passed a peck of it while under my observation: and I am sorry (having lately lost sight of him) that I did not procure a large quantity for the museum.

Now this lithic acid, or red sand, or gravel, is liable to form in the kidney, if not in the bladder, and to concrete into calculi; and the calculi once formed, or indeed, any solid substance, will constitute a nucleus, upon and around which a farther and repeated incrustation of a similar nature is almost sure to take place. You will at once perceive the importance of doing nothing to aggravate this disposition to deposit lithic acid; but of trying to prevent or stop it. If there be symptoms of stone in the kidney, or in the bladder, and we have reason to believe that it consists of lithic acid, there are medicines which would tend to render matters worse, and there are others of which the effect would be to correct the lithic acid *diathesis* as it is called. But how are we to know whether the presumed calculus be of that kind or not?—or rather, how are we to know that the lithic acid diathesis exists? Why, we learn that it exists by noticing the habitual qualities of the urine, and the habitual state of the patient's general health.

In the urine of persons who have the lithic diathesis, you will find that there are frequent deposits, after it has become cool, of reddish sediments, looking like brickdust, and therefore, called *lateritious*. These sediments consist chiefly of the lithate of ammonia, tinged with certain colouring matters in the urine. Sometimes pure lithic acid appears, in the shape of fine sand, or in larger crystals. The urine itself is bright, of a dark coppery colour, like brown sherry. It is more acid than the urine of health, and gives to litmus paper a deeper shade of red. It is apt, too, to fall below the average quantity.

The presence of this diathesis is likewise accompanied, and so far denoted, by a tendency to feverish and inflammatory complaints. The patients are troubled with acidity of stomach, and heartburn; many of them are subject to gout or rheumatism. They are mostly also indolent and luxurious, or intemperate in their mode of life. Adults are peculiarly obnoxious to this condition of the system after the age of forty. But children, up to the period of puberty, are very liable to have lithic acid gravel.

Whenever a paroxysm of nephritic pain befals a person whose time of life, the characters of whose health, and the qualities of whose urine, are such as I have been describing, you may conclude that the concretion which has occasioned the symptoms is of the lithic acid kind: and you may expect that such attacks will recur; for it is observed of these lithic acid renal calculi, that they are generally numerous in the same individual.

Now the formation of lithic acid may be controlled by the exhibition of alkaline remedies. You will find that free livers use alkalies to neutralize the excess of acid which results from their intemperate habits; the bicarbonates of soda or potass. They do this without any reference to the appearance of their urine, to prevent or appease the uneasy feelings produced by a debauch. But it is of importance to be aware that one of these salts is preferable for the purpose of obviating the lithic acid diathesis than the other. Soda will sometimes combine with the lithic acid, and form an insoluble salt, as hard and as pernicious, when deposited around a nucleus, as the lithic acid itself. With

potass there is no such danger. If it should combine with the lithic acid, the resulting salt is perfectly soluble, and will pass away dissolved, in the urine. Magnesia is also a good medicine in such cases; but it has this disadvantage, as I showed you indeed before, that when taken habitually, it is apt to cause *intestinal* concretions: and these may be as bad as the urinary ones. One of the best modes of giving the bicarbonate of potass is in the common saline draught. The stomach has the power, apparently, of destroying the *vegetable* acids, and the remedial properties of the bicarbonate become thus equally certain with those of the pure alkali; and it is much less likely to derange or disagree with the stomach. Of course the mode of living ought to be changed when the lithic diathesis prevails; the patients should dine moderately and plainly, eating of one dish, and avoiding indigestible substances, and fermented liquors. But, as I mentioned in a former lecture, they will not, if they can help it, give up their accustomed indulgences: and they attempt, and we attempt, but the attempt is often made in vain, to *remedy* disorders, which might with ease and certainty have been *prevented*.

You must take care not to give these alkaline remedies too long; nor in too great quantity. You must not push them to such an extent as entirely to destroy the acidity of the urine: for if you do, your patient is exposed to the same danger as before, but from an opposite cause. A *white* sand or gravel will be apt to form in the alkaline or neutral urine: and this will collect itself, by the force of aggregation, around any existing calculus, or foreign substance. The white deposits consist mainly of the triple phosphate of ammonia and magnesia; and if you examine collections of urinary calculi, you will find that they are sometimes made up of concentric layers; and one layer may be composed of lithic acid, and the next of the triple phosphates; and so on, as the condition of the urine has alternated. You must test the urine, therefore, and see that it still reddens litmus, though perhaps faintly. The saline draught has always a tendency to make the urine alkaline; and thus it is, probably, that it proves of use in febrile disorders: but it is an absolute poison to those whose urine is already alkaline. Colchicum has a similar tendency to diminish the acid reaction of the urine. So has mercury. And I may tell you—speaking generally of morbid states of the urine—that it is much more easy to correct too great acidity than to rectify the opposite condition. We can almost always make acid urine neutral or alkaline: but to render alkaline urine acid, is often beyond our power.

You will have observed from what I have already said, that there is a morbid condition of the system, the opposite of that in which the lithic diathesis prevails. The phosphatic diathesis, namely; in which there is a readiness to deposit *white gravel;* composed of minute shining crystals of a triple salt, the phosphate of ammonia and magnesia. The way in which this is formed, according to Dr. Prout, is as follows. Healthy urine contains the phosphate of magnesia, which is very soluble; and, therefore, is dissolved in that fluid. But, under certain circumstances, the urea of the urine becomes decomposed in the kidneys, and ammonia is extricated, which combines with the phosphate of magnesia, and forms an insoluble triple salt. Sometimes with the triple phosphate just mentioned, there is also an admixture of phosphate of lime.

It is a fact of vast practical importance, that the tendency to the formation of the phosphates goes along with a debilitated condition of the system. Persons who have been rendered weak and feeble by over much toil, by mental anxiety, by insufficient nourishment, are very apt to pass water that is alkalescent or but faintly acid, and to exhibit the tokens, in their urine, of the phosphatic diathesis. They are for the most part, cachectic, sallow, languid, spiritless. The urine itself is pale, copious, slightly turbid or opaline, of a low specific gravity, and it does not smell like healthy urine: sometimes it has somewhat the faint odour of weak broth. It is occasionally alkales-

cent when voided; never more than slightly acid. As the urine cools, the white sand is thrown down; and in many cases a sort of film is formed upon the surface of the water, exhibiting, as you see it in different lights, all the colours of the rainbow: an iridescent pellicle. This has been found to consist of the triple phosphate. If you skim the pellicle off, by placing a bit of paper under it, and then suffer the paper to dry, you may distinctly see the little crystals. Urine of this kind speedily grows putrid and highly offensive. Sometimes it has a strong ammoniacal smell. You may estimate the intensity of the phosphatic disposition by the rapidity with which the urine becomes alkalescent. Occasionally the salt is so abundant that it is thrown down while the urine is still in the bladder; and the last portions of the issuing stream look milky.

Any thing which tends farther to depress the powers of the system will aggravate the phosphatic diathesis. When you find that your patient passes urine such as I have been last describing, which does not redden litmus paper, but on the contrary turns litmus paper that has been reddened by a weak acid, blue again, or even in some cases is alkaline enough to make turmeric paper brown—in such cases you must cautiously abstain from all remedies that are calculated to lower the vital powers; from saline draughts, and alkalies of all kinds; from mercury and colchicum; from bleeding; and even from active purgation: or you will add to the patient's dangerous weakness, and promote the more abundant deposit of the alkaline phosphates. But you may do more than abstain from what is hurtful: you may counteract the phosphatic tendency by a generous diet and by the exhibition of tonic medicines; bark, wine, and acids; the muriatic acid, or the nitric, may be given in such cases with vast advantage sometimes. Opium is also a remedy to be employed in this form of disease. No single drug probably has so much power in rendering alkaline urine acid, as opium. And it is indicated for other reasons; it composes the nervous anxiety to which these patients are mostly a prey.

I should state that the tendency to deposit the mixed phosphates, though sometimes idiopathic, is much more often consequent upon local disease in some part of the urinary organs, especially in the bladder and prostate gland. It is also a frequent result of certain injuries of the back.

There is yet another diathesis sufficiently common and important to claim your best attention. I mean the *oxalic:* in which there is a tendency to the formation, in the kidney, of the oxalate of lime, or *mulberry* calculus; an epithet derived from the occasional resemblance of the concretion to that fruit, in respect to colour and inequality of surface. This diathesis is not so obvious as the other two, but it is no less real.

The urine differs much in its sensible qualities from that of both the preceding varieties. Unlike the urine of the phosphatic diathesis, it is bright and clear; unlike that of the lithic, it is remarkably free from sediment. The mulberry calculus is solitary also, or recurs at long intervals; and the diathesis prevails chiefly during the prime of life. In both these particulars the contrast with the lithic diathesis is striking.

The persons who manifest this disposition are usually dyspeptic; sometimes very much so, sometimes very slightly. They are uneasy during the assimilation of their meals; suffer flatulence when the stomach is empty; prefer vegetable diets to animal; are fond of sweets, especially sugar. They are liable to boils and carbuncles, and to scaly cutaneous eruptions. According to their original temperament, they are nervous and irritable, or dejected and desponding in mind. A nephritic attack relieves them from all this discomfort for years, perhaps. When the oxalic diathesis is strongly marked, the skin, Dr. Prout says, "is apt to assume an unnatural appearance difficult to describe, but the colour of which may be said to vary from dull

greenish yellow in the sanguine, to dark olive or livid in the melancholic temperament."

The formation of the oxalate of lime within the body depends either upon the non-assimilation of the oxalic acid taken with the food, or upon the mal-assimilation of saccharine aliments. Hence, as a general rule, both curative and prophylactic, *sugar* and other saccharine substances should be rigidly excluded from the diet of these patients. They should avoid also all kinds of fermented liquor. The young stalks of the *rhubarb*-plant, which of late years have come into such general use in this country for tarts in the spring; and *sorrel*, of which our neighbours, the French, consume a good deal in salads, and in other ways: both contain oxalic acid; and *hard water* contains lime. Dyspeptic persons who drink such water, and eat such articles of food, and are thus daily introducing, without suspecting it, the constituent ingredients of the mulberry calculus, are very likely indeed to incur the pain, and the exceeding peril, of a renal concretion of that kind. You must see, therefore, the great importance of detecting the oxalic diathesis; and of forbidding, to those who have it, all such viands as contain the oxalic acid, and of recommending them to use pure water, even distilled water, for drinking. Animal food, and the stronger farinaceous matters, are best for them.

With respect to direct remedies for this diathesis, Dr. Prout tells us that he has seen more benefit derived from the mineral acids, alone or combined with tonics, than from any other. But the effects of these acids must be watched; and when they begin to produce a deposit of the lithate of ammonia, *or* of lithic acid, their use must be suspended. He recommends to patients who happen to be at a distance, the muriatic, or nitro-muriatic acid, till the lithate of ammonia, or lithic acid begins to appear in their urine; or for a *month*. "By adopting," he says, "such a course of acids three or four times in the year, and by carefully-regulated diet, I have seen the diathesis gradually subdued, and at length removed altogether."

These observations will serve, I hope, in some degree, as landmarks, to guide your treatment of patients labouring under renal or vesical calculi, or presenting symptoms such as justify the apprehension that such fearful disorders may occur. It is impossible for me to do full justice to this interesting subject in these lectures; and I must refer you, for more minute information respecting it, to Dr. Prout's invaluble volume, and to Sir Benjamin Brodie's most instructive book on the *Diseases of the Urinary Organs*.

Medical Gazette, June 3, 1842, p. 375.

4.—GENERAL TREATMENT OF PNEUMONIA AT GUY'S HOSPITAL.

By H. M. Hughes, M.D.

The plan for many years generally adopted in Guy's Hospital, in cases of acute pneumonia, has been, to bleed the patient to approaching syncope; and to administer a pill, containing half a grain of opium and a quarter of a grain of tartarized antimony, with one or two grains of calomel, every three, four, or six hours, according to the severity of the symptoms. With this has been usually combined a saline mixture, containing twenty or thirty minims of antimonial wine. If, in the course of a few hours, or the next day, the general symptoms have been unsubdued, or, after a temporary mitigation, have returned in their former severity, venesection has been repeated. It has sometimes, though not often, been necessary that the operation should be again and again performed. Triple venesections have been uncommon, and a fourth very rare. If the general symptoms, on the contrary, have been reduced, though the local affection has continued severe —or if the power of the patient has been materially diminished by venesec-

tion—the abstraction of blood by cupping has been ordered, to the amount of from six to twelve ounces. As a decrease of the disease has been evidenced by a diminution of the general distress or a mitigation of local suffering, the medicines have been less frequently repeated. They have been discontinued altogether when a more notable or persistent change for the better has been apparent, even though the mercury has not produced its specific effect upon the mouth. If the system has evidently become affected thereby, but the complaint has been still active, it has usually been discontinued, or repeated only in small and comparatively unfrequent doses. Blisters have also been applied with good effect, in the latter stages of the disorder. The utility of these remedies in this disorder has been doubted; but I have no hesitation in stating my thorough conviction of benefit being derived therefrom, in very many instances.

This treatment, has been, on the whole, so efficient and advantageous, that little variation, and no important change, have been thought generally desirable—and, I must add, as regards myself, have been considered even justifiable.

I have indeed not unfrequently been desirous of trying the pure antimonial, or, as it has been called, the contra-stimulant plan of treatment; but in so important a disease as pneumonia, in the proper management of which the life of the patient is frequently involved, I have not felt justified in discarding means which I have so often myself seen to be effectual to cure, and in adopting others, the results of which, though highly recommended, I know principally, or almost solely, from the report of others. I must however confess, that the results of the treatment of pneumonia in Guy"s Hospital—if all cases, however far advanced, and with whatever complications, are taken into the account—are not to be compared with what are stated to have been the really "triumphant" effects of antimony in this severe malady. Thus Laennec says, that out of sixty-two cases treated by antimony, only six died; and that of these six, two were moribund on their admission—two were old men of seventy, of whom one died from cerebral congestion—the fifth laboured under chronic pleurisy—and the sixth under disease of the heart. Others are reported to have lost only one in thirty, and one in forty cases. My own experience in, and my opportunities of observing the effects of the remedy in acute pneumonia, have, as I have already hinted, been limited. In one respect, however, my observation is entirely opposed to that of Laennec, who states that he has never known renewed attacks of the disease to occur when antimony had effected some, though slight, amelioration. I well recollect, however, a case of which I possess notes, treated by bleeding and tartar emetic, in the infirmary of Edinburgh, while I was a student there, in which the patient, after two venesections, the appplication of leeches, and the continued use of antimony, was so very much relieved as to be almost considered convalescent. The antimonial solution was however continued. But when the disease had for four days appeared to be rapidly decreasing, and the patient was in every respect improving, the attack was renewed; and it was necessary again to bleed him to the amount of ten ounces, after which he rapidly recovered. The same has certainly happened in several cases that have fallen under my notice. In some instances, also, when antimony has been at first employed with benefit, but relapses have taken place, it has been, or has appeared, necessary for the cure, to administer calomel and opium in combination with it. A case on the other hand, which occurred to me when very young in practice, forcibly impressed upon my own mind the advantages of mercury in this complaint. It was that of a woman aged about 23, affected with well-marked acute peripneumony of the right side. She was bled, and put upon the calomel, antimony and opium plan of treatment. The second day she was much better; but on the morning of the third, was as ill in every respect as on my first visit. She was bled again, and again relieved.

The medicines were continued. On the fourth day she was still doing well, but on the fifth she was as bad as ever. Venesection for the third time checked the progress of the disease. The system during the same day became fully affected by the mercury, as evidenced by the state of the gums. From that time she had no severe symptoms, but got rapidly well.

There are some cases, nevertheless, in which I believe antimony to be especially useful. I refer to those occurring in persons who are not in a condition to bear the abstraction of blood, and those in which mercury is contra-indicated. In such cases, as in the pneumonia and bronchitis of children after measles, I have occasionally administered it, and, as regards the disease for which it was prescribed, with manifest advantage. The patients have, notwithstanding, died: they have, it is true, died from another complaint; but that complaint has been, I have thought, produced by the remedy employed for the cure of the pneumonia.

From what I have myself seen, and from a consideration of the whole of the circumstances, I am disposed to believe that antimony is a very active remedy in the treatment of pneumonia; that it is more particularly indicated in slight and recent cases—those complicated with bronchitis—those in which venesection cannot be borne or repeated—and those in which mercury cannot be safely employed; that the cases treated by it are often more rapidly relieved than by any other means, but that they are also more than ordinarily liable to relapses: that when consolidation has obviously occurred, it should not be trusted alone, but should always be given, together with mercury; that, in fact, though often very striking and rapid in its effects in the earlier stages of the complaint, it cannot be administered as a certain remedy at any time, but more particularly when there exists extensive solidification of the lung, unless in combination with calomel and opium.

Guy's Hospital Reports, No. 15, *Oct.*, 1842, *p.* 312.

5.—USE OF INDIAN HEMP IN SOME CONVULSIVE DISORDERS.

By W. Ley, Esq., M.R.C.S.L.

[The reader will find an account of this drug in Article 3 of our second number, in which its anti-convulsive efficacy is strikingly shewn in cases of tetanus and hydrophobia related by Dr. O'Shaughnessy; and it must be from the difficulty of procuring the preparation that it has not been more extensively used by English practitioners.

Mr. Ley relates some good cases in which it was very useful. The first was that of a lady who had some years previously received a shock and a blow by falling backwards on a tree, supposing that she was sitting down on a chair or stool behind her. The immediate consequences were not severe, but after months of ill health, she was supposed to have spinal disease, and confined to Dr. Arnott's hydrostatic bed for several years. The slightest motion was attended with great pain and spasms of the muscles of the back, the latter being so violent as to draw the body into the form of an arch; this was followed by relaxation. This contraction and relaxation would continue with slight intermission for several hours, till complete exhaustion was produced, and sleep followed. A day of exhaustion was generally followed by a milder one, the spasms at night. Mr. Ley proceeds to say,]

I ordered a grain and a half of the extract of hemp, and [illegible] the fifth dose my patient felt the effects powerfully. [illegible] was sure she had taken too much; the muscles [illegible] into a tranquil, but overpowering sleep of ten [illegible] awoke with little exhaustion, little of the aching pa[illegible]

beyond expression at the relief she had received; the shooting pains in the back, however, continued, and at night the spasms returned; still she feared to take as many pills as would produce any very decided effect; but her sufferings were much moderated, and the duration of the disease proportionally shortened; the spinal irritation had produced a contraction of the muscles of the left leg; the foot was extended until the whole arch of the astragalus appeared to stretch the integuments anterior to the tibia, and the tendon of the tibialis anticus standing prominently like a tightened cord twisted the foot forcibly inwards. It had so much of the appearance of being dislocated, that I thought it could never resume its natural position. When the attack had subsided, I examined the foot, and found it very much improved. There is now usually so little distortion, that I am convinced that it would be rectified by a little exercise of the limb. As she still suffers under spinal irritation, the involuntary action of the muscles continues to give the foot the appearance of being considerably distorted at times. In two or three subsequent attacks she has taken the hemp with relief. She increases the dose at each attack, but it has not produced the decided effect which I have detailed. The effects which I should attribute to the remedy in this case are fright, relaxation of all the muscles, and narcotism, with especial relief to the muscles strained in the spasm.

A girl, twelve years of age was attacked with that form of chorea which affects the body with rigid spasm. The countenance had an expression of idiocy; she had lost the power of speech; the foot was thrown forward in walking with a jerk, and the toe was twisted inwards and forcibly backwards; in the same way the arm was extended with a jerk, and immediately the forearm rotated forcibly inwards with rigidity of all the extensors. I gave her half a grain of the extract three times a day; it produced little apparent benefit until the third day, when she was overwhelmed with fear, the muscles became relaxed, the power of speech returned, and at the end of a week or ten days the child was perfectly recovered, having taken no other medicine. My success in these cases induced me to try the effects of the hemp in many others. The relaxation of the muscles is remarkable in all, but it did not follow that the disease was much relieved in consequence. A man suffering from fits, and having probably disease of the brain, was seized during each fit with contraction of some muscle, which continued in that state until the next fit, perhaps five or six weeks. He came with his head drawn down to the shoulder; it had been fixed there some days. It was relieved by three grains of the extract. The man said that, although the distortion was relieved, he did not think it did his head any good at all, and refused to continue taking the medicine.

A gentleman, suffering from sciatica, took three grains of the extract at bedtime; in an hour he awoke and fancied that he was dying. The muscles were so much relaxed that he could scarcely move himself; but although he suffered great tenderness previously, he did not know in which leg he was affected; he slept heavily for some hours; when that sleepiness wore off the sciatica returned, and he felt so little relief, while awake, that he would not repeat the medicine.

These cases have given me the most perfect confidence in the power of the remedy to produce relaxation of the muscles, heavy sleep, and during its action, abatement of pain.

The following with it. And to show that its influence has a wider range:

A young in practice, forking-in a young horse, and by the great and constant of exertion his muscles were swollen and hard, the arm so stiff, that affected as large as a stiked ac[illegible] hand grasp his razor; on the olecranon the doubled, [illegible] three grains of calom[illegible] orange. I gave him, at four o'clock in the second [illegible]ght repeat the d[illegible]ch be[illegible]xtract, and told him to call in three hours, [illegible]y if necessary. He did not come until next morn-

ing; he then said that his arm had been so much better the night before, that he found he could do a little work, and he thought he had better do so; he had shaved himself that morning, and he thought his arm was as well as ever. I was surprised to find that the enlargement of the bursa had almost disappeared. He has repeated the dose on a similar occasion with the same effect. He has been a great drinker, and his hand usually shakes characteristically; he remarked, on the morning after the second dose, "I do not think my hand shakes as much as it used to do."

A shipwright had a fall of twenty feet, and sprained both wrists severely. After he had been treated in the usual way three months, and had been told that, after the active symptoms were reduced, little could be done for a sprain but supporting it, he came to me, saying that he had lost the grasp of his hand, and had not, therefore, the means of getting a living. His wrists were distended so much with fluid, both in the joint and under the flexor tendons, that I fear to give a description of what I did not take notes of at the time. I tried the extract, but I did not anticipate the result. He took a grain three times a day for three weeks; he then thought himself able to work, and I have not seen him since, although he had pills still to take. His wife tells me that she is sure that the left wrist, which was the worst, is reduced one-third in size, and I do not fear to repeat it, because we have all need to make allowance for the eye when unassisted with a measure.

To a girl, aged fourteen, who had a ganglion as large as a nut on the back of the hand, I gave twelve pills, containing one grain of the extract in each, telling her to take one three times a day. In about a week she returned to me, saying, "I thought it better to show you, sir, how much better my hand is, for that place is almost gone." The only remains of the swelling was a puffiness, almost imperceptible. I must mention also a case of another character, tending to show benefit when combined with other treatment. A child, aged nine months, supposed to be teething, but having the crowing inspiration of infants, had been treated in the usual way for teething, and fits accompanying that condition; the child had had seven fits at various intervals. The parents watched it night and day, believing that each succeeding attack would carry it off. Whenever it awoke from sleep it was seized with a spasm which drew back the head, flushing of the face, stopping the breath until it was drawn in with the peculiar crowing inspiration; the spasm then relaxed, but the child was unable to resume the natural position of the head, apparently from the effect of the relaxation of the muscles. I gave it the sixth of a grain of the extract. It soon fell into a tranquil sleep, and on awaking had no spasmodic attack. The dose was continued three times daily for a week; although very much relieved, the child still had the crowing occasionally; I then thought fit to resume the plan of regulating the bowels, but the mother did not return to me after this visit. After six weeks I sought her out, thinking that the child was dead. She said as soon as the bowels were cleared again, the child got quite well. The child appears to be in perfect health, although it has now, at eleven months, no tooth or the appearance of any to the finger.

This case has induced persons to ask, "How does it affect the involuntary muscles?" Judging from what I have observed in persons sleeping under its influence, the inspirations are perfect, but I think slow; not having had my attention directed to the subject previously, I have not yet counted the number in the minute. It would not be quite fair to consider the muscles of the larynx and neck involuntary.

The effects popularly attributed to the medicine are—"inebriation of the most cheerful kind, causing the person to sing and dance, to eat food with great relish, and to seek aphrodisial enjoyments. In persons of a quarrelsome disposition, it occasions an exasperation of their natural tendency. The intoxication lasts about three hours, when sleep supervenes. No nau-

sea of the stomach succeeds, nor are the bowels affected; next day there is slight giddiness and vascularity of the eyes." After relating cases of rheumatism, hydrophobia, cholera, and tetanus, Dr. O'Shaughnessy says, "The preceding facts seem unequivocally to show that, when given boldly and in large doses, the resin of hemp is capable of arresting effectually the progress of this formidable disease, (tetanus,) and in a large proportion of cases of effecting a perfect cure," "and," adds the reviewer, "we are, moreover, after reviewing the whole evidence here submitted to us, willing to join with him in the belief," "that in hemp the profession has gained an *anti-convulsive remedy* of the greatest value."

Provincial Med. and Surg. Journal, Aug. 20, 1842, *p.* 407.

6.—TREATMENT OF INCONTINENCE OF URINE.

By Dr. Guy, Professor of Forensic Medicine, King's College, and Physician to King's College Hospital.

Three cases of this disease occurring in young persons have fallen under my notice during the last year, and one during the present, all of which have been promptly relieved, and ultimately cured, by tincture of cantharides in combination with tincture of opium or hyoscyamus. The only case reported as occurring in the female happened in a girl, aged thirteen, who applied for advice April 1st. She stated that she retained her urine well in the recumbent posture, and at night, but had no power over the sphincter in the erect and sitting postures. She was ordered—

Tinct. Cantharidis *m*ij; Tinct. Opii, *m*v. quater quotidie; Pil. Rhei c. gr. v. o. n.

15th.—Has improved regularly and rapidly, and during the last three days has been free from the complaint. She was ordered to continue the medicines to prevent a relapse, and on the fourth of May was discharged cured.

Another case occurred in a boy, æt. 15, who applied Nov. 23, 1841. He stated that he could not retain his urine longer than an hour at a time, and that he was obliged to rise three or four times in the night to void his urine, and that he frequently passed it in bed unconsciously. Ordered—

Tinct. Cantharidis, *m*ij.; Tr. Hyoscyami, *m*v. quater quotidie.

27th.—States that about five minutes after taking each dose of the medicine, he feels a cutting pain in the bladder, which lasts about five minutes. He holds his water three hours instead of one, and gets out of bed once instead of three or four times. He has ceased to void his urine unconsciously

Dec. 2d.—Still continues to retain his water better by day, but is agai disturbed more than once during the night. Ordered

To take three drops of the Tincture of Cantharidis, and fifteen drops of the Tincture of Hyoscyamus, every night, and to continue the former dose throughout the day.

7th.—Continues better in the day; but in the same state at night.

13th.—He is now obliged to get out only once during the night. He was ordered to continue the medicine, and before the end of the month was discharged quite cured.

The same result has followed the use of the same remedies in the third case of last year, and in the one treated during the present year.

Medical Gazette, Sept. 30, 1841, *p.* 7.

7.—IODIDE OF POTASSIUM IN ACUTE HYDROCEPHALUS.

By Charles Fluder, Esq., Lymington, Hants.

[In Art. 35 of Retrospect vol. iv. will be found an interesting account by Dr. Roeser, of the efficacy of this remedy in the above named disease. Mr. Fluder gives some striking facts in corroboration of this practice. In two cases treated by him, all the ordinary means were used in vain. One child, in addition to strabismus, laboured respiration, convulsions, and other symptoms, had for several days together, complete opisthotonos, the body being stiffly arched from the occiput to the ossa calcium.]

In this condition, says Mr. Fluder, I suggested a trial of the hydriodate of potass, in half grain-doses, every two or three hours. The only visible effect of this, in connexion with the rapid improvement of both children, was considerable diuresis, and in one much saliva dribbled from the mouth. Both recovered perfectly and speedily, and are living and healthy at this time.

In another case of a similar kind, "the pupils were dilated and immovable, and insensible to light. There was complete paralysis of the right side, while the limbs of the left were in constant tremulous motion, the hand being frequently drawn to the head with an undulatory automatic movement. This state of things continued to the 18th, with occasional convulsions and almost entire insensibility. Wine had been administered without benefit, and I do not know how it was that I did not prescribe the hydriodate of potass a day or two earlier, for the effects of that medicine, in the two cases before alluded to, had made a considerable impression on my mind at the time. Without much expectation of doing good in this case, I prescribed the medicine as before, and with precisely the same results; not indeed instantaneous, but as an observant grandmother remarked, it appeared to improve with each dose of the medicine; the only appreciable effects being a speedy diuresis and dribbling of the saliva.

Whether the hydriodate of potass was beneficial in these cases by revulsion, as an evacuant, or by aiding the absorbents, I know not: or was it by goading into action the mercury which had been previously taken?

Medical Gazette, Sept. 30, 1842, *p.* 24.

8.—ON SULPHATE OF ZINC IN FLATULENT AFFECTIONS OF THE COLON, AND IN CONSTIPATION.

By George Strong, M.D.

[Dr. Todd, in his article on indigestion, has described one kind of the affection as arising from enlarged calibre and tympanitic distension of the great intestines—atonic colonic dyspepsia. Other writers allude to "flatulent colic."

The meteoric affection is often attended with cramps in the calves of the legs, and with cold feet, preventing sleep at night. "The breath is short, especially on ascending stairs, bowels sluggish; the swelling increases after a meal, sometimes to a very serious extent. This kind of flatulency will generally subside after existing an hour or two. Dr. Marshall Hall, speaking of the borborygmus or stridulous movements of flatus, says, "This noise is very much under the influence of respiration, and also of any state of excitement. For the most part, and especially on inspiration, it is somewhat less so, conveying the idea of the sound issuing as it were from water. Often before it ceases, it resembles the plaintive sound of a dying animal." When flatulence exists in the stomach, it is not so permanent an evil as when existing

in the intestines; eructation soon takes place, or it passes off by the pylorus, or is absorbed.

"The chief function of the colon is delay. It might, therefore, *a priori*, have been expected that, of all the intestines, the colon would most frequently become over-distended with gaseous and other matters, inasmuch as its natural office is that of a reservoir for such matters." "The large intestines serve at once for a temporary reservoir and a cess-pool. The nourishment triturated in the mouth passes hastily through the fauces and down the œsophagus, but in the stomach is retarded an hour or two before its passport from the pylorus can be prepared. The onward progress now, though tortuous, is uninterrupted, through the duodenum and along the jejeunum and ileum; till the dregs, solid, fluid, and aeriform, are emptied into the great receptaculum. Their labours ended, the organs of supply now enjoy repose. Not so the colon; it has had prisoners of varied characters, often of unruly disposition given in charge; its contents are precluded from either egress or regress, for a period often exceeding twenty hours, during which an unceasing struggle is necessary on the part of the visceral muscles to maintain the healthy calibre of the bowel." Cullen states that, "The flatulent symptoms are to be referred to the loss of tone in the muscular fibres of the intestines rather than to any fault in the digestive fluids."

Before proceeding to speak of astringents, and of sulphate of zinc in particular, Dr. Strong quotes a paragraph from Dr. Billing on the subject of inflammation, which, he says, sheds a strong light on the view he entertains. The passage is as follows:]

"The action of the arteries is acknowledged to be contraction, whether muscular or not: and a consideration of the phenomena of inflammation and of the nature of arterial action will show, that in inflamed parts the capillary arteries are weaker in their action; that there is diminished arterial action, for the action of arteries is contraction: now the arteries in inflamed parts are evidently larger than before—less contracted, that is, acting less. An inflamed part is redder and swelled; where the vessels are visible, as in the eye, we can see that the redness is caused by the minute vessels becoming larger, so as to admit more red globules of the blood, which before admitted chiefly the more fluid and transparent part. This enlargement of vessels is not from increased action, but, on the contrary, from their action being diminished, their giving way and being dilated by the injecting force of the heart. The way to diminish the inflammation is by increasing the action of the arteries, as by cold or astringents, which make the arteries contract, that is increase their action. So that far from the arteries in an inflamed state being in a state of increased action, one of the means of diminishing inflammation is by increasing arterial action in the part inflamed."

[Dr. Strong then proceeds with his paper as follows:]

After Dr. Percival's successful administration of alum in colica pictonum, Dr. Mosely introduced and recommended sulphate of zinc, but whether upon chemical principles, or with a view to an astringent or any other effect, is still a questionable matter. Its astringent virtues, however, remain unquestioned, and though the disagreeable metallic taste which zinc leaves upon the palate is objectionable in gargles, yet, in the cure of various discharges, as from the urethra, &c., or in leucorrhœa, this preparation of zinc is in high estimation, and in daily use.

In administering this salt in what I judge to be an affection of the bowels, not of the stomach, it is proposed—

1. By renewing the tone of the muscular fibres to control the calibre of disordered portions of the tube.

2. To cure constipation where purgatives could not be borne.

3. To constringe the mucous capillaries, and thus to diminish the secretion of gas, or to quicken its absorption.

One of the happiest and most imposing improvements of modern medicine is the cure of congestions commonly called inflammations, by the local and direct application of stimulants. Periosteal nodes are relieved by blisters; hematemesis by swallowing oil of turpentine; and ulcerated cornea yields to vinum opii; and lunar caustic exerts a powerfully controlling influence over erysipelas errans. Ergot of rye seems capable of exerting an influence not only upon the muscular structure of the womb at the epoch of parturition, or when charged with other products, and upon its capillary vessels in ordinary circumstances of hemorrhage, but, when administered for a certain length of time, of causing contraction and coagulation of the very fibrine of the blood in the large arteries of the body. Other cases of indirect specific action may be glanced at, such as hepatized lung yielding readily to large doses of oleum terebinthinæ; and could this powerful agent be always brought to bear upon the pulmonary organs, it would be as invaluable in their congestions as the tincture of cantharides has become in certain forms of leucorrhœa.*

All these specific stimulants or astringents, (for such is their effect,) be they direct or indirect, act primarily and perhaps solely upon the local nerves, which are first impressed with pain, then excited into energy, and thus cause contraction in all tissues within their province that obey nervous influence, but they cause especially contraction of enlarged capillaries. In deafness owing to a relaxed and engorged state of the mucous lining of the Eustachian tube, a gargle of alum produces retraction of the swollen mucous tissue, *i. e.* of its vessels, after which, on blowing the nose forcibly, air is found to penetrate into the cavity of the tympanum.

In connexion with this subject, may be mentioned from M. Parent-Duchatelet's work called "de la Prostitution dans la Ville de Paris," his remarkable instance of a woman aged 51, who had been upon the town since she was 15, and upon examination at the prison of the Madelonettes in Paris, the sexual organs presented, he says, the appearance of a maiden just turned eighteen years of age. This female acknowledged that she constantly used astringent washes.

These are illustrations of the meaning of the word *astringent*, or of the sense in which only a drug can be said to *astringe*. It is a coarse but not an uncommon interpretation of the word to understand that it confines the bowels. Now, if sordes or small collections of fæcal matter lodge up and down the digestive tube, this may depend upon a simple diminution of organic sensibility, the nerves of the mucous membrane are blunted in their delicacy of tact. In the case of a larger accumulation, there may be also a want of power to propel forward the mass. Where pouches form and are distended with gas, there is an interruption of the regular peristaltic motion of the intestines. These are the chief elements of functional constipation.

The internal employment, then, of similar astringents is in entire accordance with the present state of our knowledge of contractile tissues, and indeed, I suppose the salts of zinc and of copper are now pretty generally administered in this country for the cure of common attacks of diarrhœa, as well as of the passive flux into which dysentery sometimes degenerates; coaxing the stomach, by combination of a little opium, to permit their undisturbed passage through it.

If the tissue of our hollow organs obeys the same laws that regulate our

* Is the author quite serious in believing that oil of turpentine is capable of resolving a hepatized lung, and restoring the natural structure?—EDITOR *Edin. Med. & Surg. Jour*

external and visible parts, and medicine will take a hint from surgery, perhaps it may not be presumptuous to anticipate the substitution ere long of prompt astringents, for the tedious formula of tonics, in certain cases of dyspepsia, in many of flatulence and mild colic, and to alternate, at least, with laxitives in the cure of habitual constipation unconnected with organic obstruction.

The expressions "direct application or immediate application of astringents and stimulants," comprise the idea of the short reflex circuit which is excited in every styptic process; and such application is understood to be direct in comparison of the very distant influence which tonics exert. All contraction is excited through the nerves. The two contractile tissues now recognised by physiologists are capillary arteries and muscular fibre. Now when the nerves of the mucous membrane are impinged by the salt, the proximity of these two tissues in the mucous and muscular coats of the bowels, involves the inclusion of both within the smallest reflex circuit that an astringent stimulant could excite, consequently, in nearly all conditions both of health and disease, these tonics could sympathise.

I will not dispute the general accuracy of Dr. A. T. Thompson's assertion respecting the action of astringents upon the digestive organs. "The mucous membrane of the alimentary canal," says he, "becomes comparatively dry, from its usual exhalations being diminished, and costiveness is the result." But I think the paragraph is one calculated to raise prejudices against a most useful class of remedies. Far from the above effects resulting, I remark that the administration of these remedies, according to my plan, is followed by a considerable production of flatus, and often by its discharge through the œsophagus as well as downwards; but in the course of a day or two, the patient who was used to loosen the waistband a few hours after a meal, now declares that "his body is certainly less, and that his wind is better for walking or mounting a stair;" there is in medical language more room for the play of the diaphragm. Soon regular, large, seldom loose evacuations make their appearance, consecutive to a peculiar sensation in the abdomen, not amounting to griping. There is occasionally a tingling like the pricking of pins and needles, felt over the trunk and even along the extremities for a short time, that cannot fail to suggest the dietetic origin of some forms of prurigo or of urticaria. In some instances where sluggishness pervaded the primæ viæ half an ounce of castor-oil appeared to diffuse the astringent salt throughout the colon, and presently to bring on its contractions.

It is preferable to prescribe sulphate of zinc in the form of pil, both to avoid the disagreeable taste, and on account of the tendency of this preparation, even in small quantities, to cause nausea. What Dr. Elliotson recommends for sulphate of copper, viz. to give it immediately upon a meal to prevent nausea, is applicable to sulphate of zinc, and where this precaution is not sufficient, I have found the addition of opium enable the stomach to bear the full dose, with the single disadvantage of occasionally inducing thirst Thus,

℞ Zinc. Sulph. gr. xviii.; Pulv. Opii. gr. iii. mucilaginis g. suff. m. ft. pil. vi. cap. un. quinta quaq. hor. post. cib.

Where the stomach could dispense with opium, I have directed a pill to be made up with one grain of extract of rhubarb or of gentian, to three of sulphate of zinc, and taken four or five times in the twenty-four hours. It is a main object of this plan to throw at once a strong solution into the cœcum and large intestines, and, since small doses only can be passed through the stomach, they must be made to succeed each other rapidly. Occasionally after fifteen or twenty grains have been taken, there is intolerance of a further dose, and vomiting occurs even when the medicine is qualified with opium.

This occurrence I have generally found to be a criterion that the colon

had resumed its healthy calibre; but it should be added, that vomiting or the excitement even of nausea are by no means essential to the entire success of the treatment.

Regarding this practice as a kind of stimulating lotion to a relaxed part, we cannot consider twenty grains but as a small quantity of sulphate of zinc, to be applied to the enormous surface presented by the colon; the mere length of which, not to mention its breadth when cut open, exceeds seven English feet in an ordinary sized man.

To proportion the remedy with confidence to the extent of the derangement, to its previous duration, to its intensity, also taking into account age, sex, temperament, mode of life, state of health, climate, season, &c., requires obviously discretion and experience; but it may be worth while to note down in this place, that an under dose, an inadequate stimulant, is apt to tease the weakened part, an effect which is commonly expressed by the phrase "tonics are not well borne." It has never in my hands produced disagreeable effects, cumulative or otherwise, though I have boldly used it for a considerable time past.

Dr. James Johnson, in 1826, published some useful observations upon the employment of nitrate of silver in a condition of the digestive organs called "morbid sensibility of the stomach and bowels;" a condition perhaps nearly akin to what has been already pointed out. But, however powerful the tonic influence of this remedy upon the alimentary canal on the system at large, between chemical decomposition and absorption, very little of it in substance can ever reach the colon. We reject sugar of lead, another metallic astringent, from its generally noxious influence upon the viscus. Alum is objectionable, chiefly on account of its bulk, a scruple being no more than equivalent to three grains of white vitriol; add to these sulphate of copper, and we have three astringents, which in certain doses seem to be repelled by the absorbents of the stomach and upper bowels. There is reason to suppose that they pass undiminished in quantity out by the pyloric opening, then mix intimately with the chymous, and successively with the chylous mass in the duodenum and ileum, the solution becoming more and more concentrated and astringent, in proportion as the absorption of nutritious particles proceeds, and as the drug approaches the part where its services are required. The circumstances and progress are not dissimilar to those of a dose of purgative salts.

The durability of the impression thus made upon the bowels is a question of some interest in comparing the effects and weighing the respective merits of astringent and of purgative medicines. Three weeks is the shortest period within which I have known the flatulence and costiveness of the bowels return after their disappearance under the use of zinc, and in these instances the astringent plan has been resumed upon a broader footing.

The remedies that have of late been proposed, such as the employment of the galvanic circuit, the hot or cold douche thrown upon the abdomen, and bladders of ice or snow laid over the part, are at once seen to be of restricted applicability; few persons being willing to incur the expense and loss of time, and to undergo the severity and inconvenience of those heroic remedies for an ailment comparatively trifling.

The nearest approach to this principle of treatment that has yet come under my notice, is that of Dr. Warren of Taunton, who recommended "alum whey, where atonic colonic dyspepsia existed, in conjunction with gentian, tonics, &c." The routine treatment in this country is still but too often a random shooting of arrows in the dark; little diagnosis being made of this class of maladies. Alteratives, counter-irritants, an occasional purge, then a course of mild tonics and aromatic bitters, with a regulated diet and daily foot exercise, will cure this form of dyspepsia in five or six weeks. Such was the method of the late Dr. Baillie. Various disorders may no doubt

be recovered from by pursuing this plan, which is excellent, but, where an erroneous view of the case has been unfortunately taken, involves a serious loss of time.

In a valuable work professedly upon "the Stomach in its morbid States," by Mr. Langston Parker, some cases and symptoms which are detailed actually tend to show that the *bowels* were in fault, not the *stomach*. Thus chapter 13 is entitled, "of the treatment of those forms of stomach disease whose prominent symptoms are pain and constipation." And amongst the drugs prescribed for this stomachic affection, and which completely relieved it, may be picked out, rhubarb, cascarilla, magn. sulp. and tinct. aloes;—making good, it would appear, that pleasant satire upon our art, that sagacious physicians in all ages have exhibited considerable agreement in the article of treatment, however their theories might be at variance and frequently in direct opposition.

Edinburgh Med. and Surg. Journal, Oct. 1842, *p.* 408.

9.—ON CHLORINE IN SCARLET FEVER.

By Dr. Watson, Lecturer on Medicine, King's College, London, &c., &c.

[In scarlatina maligna, every practitioner is aware, that frequently all his efforts are vain to check the disease. There seem to be two sources of danger—one arising from the primary impression of the contagious poison upon the body, and especially upon the nervous system, which is overwhelmed by its influence. In this case, the patient often sinks without any affection of the throat, and our chief dependence will be upon wine and bark to sustain the powers of the system till the deadly agency of the poison has exhausted itself. Another source of danger arises from the gangrenous ulceration of the throat—the system seems to be *re-inoculated* with the poisonous secretion from the throat. Wine and bark will here also be of great benefit; gargles composed of chloride of soda will be found efficacious, and if the child is too young to gargle, it may be injected into the nostrils and against the throat by means of a syringe. This will be found superior to capsicum gargles. But we think one of the most efficacious methods is that recommended so strongly by Velpeau, of blowing powdered alum up the parts by means of any tube long enough for the purpose, as two or three quills inserted into each other, so as to make one continuous tube. This method was fully explained in our 4th Number, Article 8, and will be worthy of trial by every practitioner. Dr. Watson seems to think highly of chlorine. He says:]

From several distinct and highly respectable sources, *chlorine* has been strongly pressed upon my notice, as a most valuable remedy in the severest forms of scarlet fever. My informants have stated, that whereas they formerly dreaded to be summoned to cases of that disease, they now, having had experience of the virtues of chlorine, felt no misgivings in undertaking its treatment. Since these representations were made to me, I have not had opportunities enough of trying this drug to enable me to speak confidently of its sanative power; but I shall certainly employ it in future. I presume that its disinfecting properties may, in part, account for the good it does. It probably deprives the foul secretions of their noxious qualities.

In the fourth volume of the Medical Gazette, Messrs. Taynton and Williams, of Bromley, write in high praise of this remedy. I will give you the formula for its preparation.

Two drachms of the chlorate of potass are to be dissolved in two ounces of hydrochloric acid, previously diluted with two ounces of distilled water. The solution must be put immediately into a stoppered bottle, and kept in a dark place.

Two drachms of this solution, mixed with a pint of distilled water, constitute the chlorine mixture; of which a table spoonful, or two, according to the age of the patient, may be given for a dose, frequently.

Medical Gazette, Sept. 9, 1842, p. 902.

[Whilst on the subject of scarlet fever, we will give the following observations of Dr. Watson on the protecting influence of belladonna in this desease. He says:]

You are probably aware that *belladonna* is believed by many to exert a preventive and protecting influence upon the body against the contagion of scarlet fever. Hahnemann, the author of the Homœopathetic hypothesis (and thereby of much mischief to mankind), was the first to assert this. It is said that belladonna administered in small doses causes sometimes a rash resembling that of scarlatina. It certainly is apt to produce dryness and redness of the fauces. I know nothing, by my own experience, of the alleged conservative property of this vegetable, but in the small quantities recommended, there can be no harm in trying it, *provided that* its employment does not lead to a neglect of other precautions. Three grains of the extract of belladonna are dissolved in an ounce of distilled water; and three drops of the solution are given twice daily to a child under twelve months old, and one drop more for every year above that age. It is affirmed that if this remedy does not prevent the disease, it will render it mild; and that if it be taken four or five days before exposure to the contagion, the resulting scarlatina never proves fatal.

Ibid, p. 906.

10.—ON THE PREVENTION AND TREATMENT OF APOPLEXY AND HEMIPHLEGIA.

By Dr. Marshall Hall, F.R.S.

[This subject forms the substance of a very interesting paper read before the Medical Society of London, April 4th, 1842. We need not dwell upon that part of it which refers to plethora as the cause of, and depletion as the remedy for, apoplexy and hemiphlegia, as the attention of the profession has already been too exclusively devoted to this part of the subject, forgetting that the disease very frequently arises from exactly opposite causes, viz. inanition and anæmia, besides morbid conditions of the stomach and intestines, dyspepsia, cachexia, and gout. The liver and kidneys also play their part, and the circulatory system is not an unfrequent cause of the attack, as hypertrophy with augmented impulse given to the arterial blood, or indilation of the heart, and disease of its valves impeding the reflux of the blood along the veins. The capillary vessels, the minute arteries and veins of the brain may also be diseased and cause the mischief. Dr. Marshall Hall's observations on inanition, gout, diseases of the heart, &c., as causes of apoplexy are particularly worthy of notice. On this subject, he says:]

It was constantly his lot to see his patients who were in jeopardy not from fulness but from inanition, and who had long been kept in a state of anæmia by blood-letting, general or topical, when an opposite treatment was required to restore the equilibrium of the system, and to remove the vertigo and other symptoms threatening an attack of apoplexy. A state of pallor, a disposition to faintishuess, palpitation and nervous timidity, the occurrence of the symptoms when the stomach was empty, when the bowels had been relieved, and on suddenly looking upwards, or resuming the upright position when rising from bed, or after stooping, or the recumbent position. Such were

the diagnostic *signs* of a state of inanition from a state of plethora. The *history* of the case also afforded a diagnosis; for, although depletion might have appeared to afford a momentary *relief* of the symptoms, it had issued in their *aggravation* in general. An opposite mode of treatment, very cautiously and prudently adopted and pursued, would confirm the diagnosis, by affording a more permanent, though possibly a less immediate and marked relief. It was to the important distinction between the immediate and permanent relief, indeed, that he would draw the attention of the profession. In the case of symptoms portending apoplexy or hemiphlegia, although these might arise from inanition, yet they were invariably *relieved* by depletion, although they afterwards returned with augmented force. This effect was very puzzling to the inexperienced practitioner. It was explained by the fact, that the symptoms ceased under the influence of a condition allied to syncope, but returned with the reaction. This subject must be carefully studied, in order that the nature and treatment of the case might be understood. He had next particularly to notice that the state of anæmia was not one of safety. In such circumstances, apoplexy and hemiphlegia, with the actual effusion of blood into the cerebrum, had occurred. Such a case was related by the late Dr. Denman. It occurred in the midst of exhaustion and anæmia from protracted uterine hæmorrhage: a clot of blood was found in the cerebrum. A similar case was detailed by Mr. Travers. This latter occurred under the actual use of the lancet, and during the flow of blood from the arm. A third case occurred to Mr. Hammond of Brixton, after parturition. The patient was attacked with hemiphlegia; she gradually recovered. We might therefore incautiously bleed our patients into apoplexy and hemiphlegia! This statement should lead us to be very wary in the use of this remedy in doubtful or protracted cases. Even in cases of injury of the brain, as in concussion, the same question presented itself. This point was admirably illustrated by the following remark of Sir Benjamin Brodie:—"Where bleeding has been carried to a great extent, symptoms frequently occur which in reality arise from the loss of blood, but which a superficial observer will be led to attribute to the injury itself, and concerning which, indeed, it is sometimes difficult even for the most experienced surgeon to pronounce, in the first instance, to which of these two causes they are to be referred. Repeated copious blood-letting is of itself adequate to produce a hardness of the pulse, which we shall in vain endeavour to subdue by persevering in the same system of treatment. In many individuals it will produce headache and confusion of mind, not very different from what the injury itself had previously occasioned." The pallor of the countenance, the effects of position, the effects of fasting or of an active purgative, the history of the case, must be carefully considered in forming our diagnosis. The treatment would then consist in carefully restoring the system to its state of equilibrium.

Of Dyspepsia and Cachexia.—There could be little doubt that in dyspepsia the blood itself became contaminated, and, as it were, *cachectic*. On this principle we accounted for the appearance of furunculus and paronychia; for the morbid condition of the tongue and interior of the mouth, the general cutaneous surface, the secretions, &c. He had so often observed symptoms threatening the apoplectic or hemiphlegic attack, in conjunction with symptoms of dyspepsia and cachexia, that he had no doubt of the vast importance of a strict attention to this subject. That very day, (Oct. 1, 1841,) he had been consulted by a medical gentleman from Birmingham under these circumstances. One form of this affection was the following:—vertigo occurred with faintishness, sickishness, and a cold clammy perspiration; sometimes there was actual sickness, sometimes much flatus. In these cases the feet and other extreme parts were apt to be cold. The secretion of the liver was frequently defective, and the urine was apt to deposit the

lithic acid salts. Nothing could be so injurious as blood-letting. In no case was the loss of blood repaired with such difficulty. The application of a few leeches frequently left a state of debility and pallor which were felt and seen for weeks. The treatment consisted in the correction of the secretions, and in the infusion of tone and general health into the system. The compound decoction of aloes, the infusion of rhubarb, of gentian, of cinchona, singly, or better, mixed together; sarsaparilla, the vinum ferri, the bicarbonate of potass; stomachics, tonics, and antacids, in a word, were the principal internal remedies. But with these, a mild, nutritious diet, a system of gentle exercises, early hours, the tepid salt-water shower-bath, and a strict attention to the feet and general surface, by means of the flesh-brush, flannel, and a frequent change of shoes and stockings, should be conjoined. Those engaged in the harrassing affairs of a London life should sleep in the country, and cherish the utmost quiet of mind.

Of Gout.—But he had frequently traced a connexion between gout and its frequent attendant, the lithic acid diathesis, and the apoplectic and hemiplegic seizure. It was not merely plethora, or the opposite state of inanition, that led to the apoplectic attack. The morbid state of the blood in dyspepsia and cachexia also disposes, as he had already said, to this affection. The same remark applied to the condition of the system and of the blood, especially in gout; and, as he should have to observe immediately, the same disposition obtained in several morbid conditions of the liver and kidney. A nobleman, now no more, suffered in succession from gout and the herpes zoster, and the urine deposited the lithites copiously. He was relieved by the appropriate remedies, and became affected with an apoplectic (or epileptic) attack. A similar attack (without hemiplegia) occurred several months afterwards, and a third attack proved fatal. This gentleman was pallid, the prolabium being white. A steady perseverance in such remedies as the decoctum aloes compositum, the bicarbonate of potass, and the vinum ferri, had in other cases effectually averted the threatened evil. But he must make another remark. The vinum colchici should be given in very minute doses, as five drops thrice a-day, also steadily and perseveringly, to overcome the specific gouty diathesis. The lithic acid diathesis was not the only urinary disorder which led to apoplexy and hemiplegia. This attack, it is well known, occurs in the case of diabetes and in that of albuminous urine. Although he had designated the attack apoplectic and hemiplegic, it was sometimes more allied to epilepsy than apoplexy. The gentleman to whose case he had briefly adverted, was affected with minute ecchymosed spots on the forehead, which he had only observed under three circumstances, viz. after severe vomiting, the effects of parturition, and the epileptic attack; when he saw him, soon after the second seizure, the insensibility had passed away, and there was no hemiplegia.

Of disease of the Heart.—It has long been supposed that disease of the heart is a cause of apoplectic seizure, and hypertrophy of that organ has been fixed upon as the most influential in this respect. On this question the pathologists of France were much divided. Of the two latest writers on the subject, M. Andral was of opinion that hypertrophy was really a frequent cause of apoplexy; whilst M. Louis was of the opposite opinion. There could be no doubt that, *cæteris paribus*, hypertrophy of the heart would cooperate in inducing the apoplectic attack; but he thought that a much more energetic cause of apoplexy, and of congestion and hemorrhage in general, was that form of disease which impeded the return of the venous blood from the brain, viz. dilatation and valvular disease. The worst form of hypertrophy might be unattended by symptoms or appearance of congestion; but no severe case of dilatation or valvular disease ever existed, without lividity of the countenance, dozing, and other appearances and symptoms of apoplectic tendency. Altogether, however. we wanted a series of cases, carefully taken

and analysed, and statistically given, to *establish* the truth of the real influence of disease of the heart in inducing the really apoplectic seizure.

Diseases of the Capillary and Minute Vessels.—The influence of this cause of apoplexy is placed beyond doubt by post-mortem examination. Sometimes the morbid appearance is a dilated condition of the capillaries; sometimes an ossified condition of the minute arteries (?); sometimes a minute aneurism. Another important topic is that of "rammolissment," or softening of the brain, as the *cause*, and as the *effect* of apoplectic or hemiplegic seizure. In resuming the subject he might remark, that it was not plethora alone which predisposed to the apoplectic and hemiplegic attack; the very opposite condition of the system, or anæmia, whether it arose from loss of blood by blood-letting, or hemorrhage, or from defective sanguification, was not free from this danger; dyspepsia and cachexia, as they induced external disease, as seen in furunculus, paronychia, &c., might also induce a paralytic affection, a morbid condition of the blood taking the place of plethora or anæmia.

Of Muscular efforts.—He might make the same remarks in regard to muscular efforts, which he had done in regard to disease of the heart—those efforts which opposed resistance to the reflux of the venous blood were much more efficient causes of the apoplectic seizure than those efforts which augmented the momentum of the arterial blood. Thus, we rarely heard of the occurrence of apoplexy during the violence of the race, during the ascent of mountains, &c., but such an occurrence at the water closet was by no means uncommon; and we all knew how apt the parturient efforts were to induce congestion of the brain, and the consequent apoplectic seizure. It would be most interesting to correct our ideas on these subjects by a cautious appeal to facts.

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II.—ON THE PATHOLOGY AND TREATMENT OF TUBERCULAR PHTHISIS.

By Sir Charles Scudamore, M.D., F.R.S.

Dr. Carswell, in his interesting article on tubercle, defines it as follows:—"Tuberculous matter is a pale yellow, or yellowish-grey, opaque, unorganised substance; the form, consistence, and composition of which vary with the nature of the part in which it is formed, and the period at which it is examined." He adds, "the prevailing opinion among pathologists is, that the seat of tuberculous matter is the cellular tissue of organs; that it may, however, be formed on secreting surfaces, as in the mucous follicles of the intestines, perhaps in the air-cells and bronchi, the surface of the pleura, peritoneum, and likewise in false membranes, or other accidental and new products, and in the blood itself." He states it "to be very rare that tuberculous matter can be detected in the blood contained within its proper vessels; but that it is frequently met with in this fluid in the vessels of the spleen." He appears, however, to believe that it is contained in the circulating blood. He observes, —"As a morbid constituent of the blood, we can take no cognisance of the existence of tuberculous matter, otherwise than through the medium of the secretions, or until this fluid has ceased to circulate. Then it is seen to separate from the other constituents, the serum, fibrine, and colouring matter of the blood, and is distinguished by the peculiarity of its physical characters." He is of opinion that the external configuration or form of tuberculous matter depends on the particular organ, tissue, and situation in which it is produced.

[It seems, however, from the different opinions of Bayle, Laennec, and

Louis, that the theory of tubercle is still an unsettled point, whether we look to its first formation and progress, its localization, separate or co-existent in its different forms, part at which softening begins, vascularity or the contrary, and some other particulars. Sir C. Scudamore has seen the following several forms of tubercle:—]

First. The minute (miliary) granulation appearing either semi-transparent, or almost wholly transparent, always more or less in clusters, lying immediately under the pleura, and in different parts of the parenchymatous structure.

Secondly. Granulations of rather larger size than the last, of a grey colour, usually very abundant, and disseminated throughout the lung.

Both of these kinds of tubercle often become aggregated into close masses, and the second especially; the grey miliary so coalesce, that from this cause and from the albuminous part of their composition becoming more dense, they acquire a yellowish-white appearance. The miliary which I have first described sometimes passes into this, the second.

Thirdly. The yellowish fibrinous-looking tubercle, of a size varying from a seed of pearl-barley to a small almond, variously located in and about the lung, not numerous as the other kinds, sometimes even solitary.

Fourthly. Infiltration of softened tubercular matter in the tissues of the lung, and in the bronchial tubes.

[All the varieties of tubercle when minutely examined present, according to Sir Chas. Scudamore, one general result, namely, the existence of albumen in their composition with occasionally slight evidence of fibrine, always of lime in abundant proportion, and in varying degrees of combination with carbonate and phosphoric acids, more rarely with muriatic.]

Tubercle, when examined microscopically, is found to consist of an assemblage of corpuscles of variable size and shape, sometimes containing granular matter of exceedingly minute granules; and in some of the smaller kinds of tubercles, as in the grey miliary, besides the constituents above mentioned, there are cells of a more regular form and size, and larger than the corpuscles. In the crude or firm tubercles the corpuscles are closely packed together, and the granular matter scanty; whereas, on the contrary, in the larger and softer kinds the corpuscles are easily separable, and the granular matter in great abundance. The form of the corpuscles is for the most part globular or oval, but in the softened tubercles they are very irregular as to their shape, being often elongated and fusiform. They vary in diameter from about 1-3000th to 1-2000th of an inch. The granules, also, are very variable as to their size. Mixed with them are found myriads of minute globular bodies, scarcely capable of being measured by our ordinary micrometers, being much less in diameter than 1-25,000th of an inch. These are most abundant in the soft tubercles, which, in fact, appear to consist of little or nothing else but granules and broken down corpuscles. The cells are more constant in size and shape than any other constituents, and average in diameter about 1-1500th of an inch. Nuclei are sometimes apparent, but as the tubercle increases in size the cells become disintegrated, and finally disappear.

[The vascularity of tubercle is a very questionable circumstance, and although some writers have asserted its vascularity, the generality of our standard authors deny it. Dr. Carpenter says, "The difference between the deposit of tubercle and that of healthy organizable material would appear to be this—that the former is composed of the albuminous constituents of the blood, a mere chemical compound which is not prepared to undergo organization until it has passed through the condition of fibrine; whilst the latter is a portion of the vitalized fibrine, which pos-

sesses within itself the tendency to organization, and only requires the the contact of living membrane to enable it to pass into a regular structure." On injecting a tuberculated lung, the injection will generally, if not invariably, be found not to enter into the tuberculous matter. The following conclusions are adopted by Sir C. Scudamore:]

Tubercle is wholly free from vascularity; invariably it contains cells and granules, and in every kind of tubercle of the same structure. This, therefore, is the most essential part of its constitution; and I think it may be reasonably suggested that the tubercle is nourished and receives its growth by means of the cells, on the same principle that the non-vascular tissues are nourished by means of cells, as so ably shown by Mr. Toynbee; and as the plant receives the sap through the medium of cells instead of straight vessels. In this view of the subject we cannot pronounce tubercle to be in-organic; it is not heterogeneous, for it is a compound substance; and not wholly extra-vital, although certainly the lowest degree of vitality only can be assigned to it.

Another question has arisen, Where is the tubercle first formed, in the blood itself, or in the exact part where it is found? The favorite conclusion of those who have written on the subject appears to be, that the tubercular germ circulates in the blood, and is arrested by the extreme capillaries of the lungs, or other viscus or tissue. In answer to this opinion I have to observe that by the aid of the microscope the peculiar cell of tubercle is never found in the blood, and consequently that it must be a local formation. Tubercle is situated in various parts of the lung, as in the cellular tissue, without and within the air-cells and bronchi, but never external to the pleura. From the fact which I have witnessed in one examination by the microscope, that the blood of a person labouring under tubercular phthisis contained pus-globules, so called, more abundantly than the blood of a person in health, it has been suggested that hence some explanation may be offered of the origin of tubercles; but such an hypothesis must vanish when we consider that these particular globules abound in the blood of persons labouring under various kinds of disease, and are never absent from the blood of those in health; so that, in the present state of our knowledge, we are not enabled to theorise on the so called pus-globule (now known to be fibrine) as a morbid phenomenon. Dr. Martin Barry considers that the pus-globule is the altered nucleus of a corpuscle of the blood.

Pathology of Tubercle.—I am led to entertain the opinion that the formation of tubercular matter may be referred to a specific virus or poison in the blood, which I call the tubercular, and which expends itself in determining the formation of tubercles in different parts, but in the lungs more especially, such tubercular product being *sui generis* in regard to the structure of its cells, as already explained. The cells of the tubercle of phthisis differ from those of the cancerous tubercle, and from what are found in scrofulous matter. In other specific diseases, as cancer, syphilis, hydrophobia, small-pox, and more which might be named, we must of necessity assume that there exists a special poison capable of producing the distinct phenomena of disease relative to each particular virus; although it is in vain that, with all the advances of chemical knowledge, we endeavor to detect the presence of such virus in the blood. If we examine the contents of a small-pox pustule, we cannot, either by chemical tests, or by the aid of the microscope, discover any important difference between such pus and that of an ordinary ulcer.

Every distinct animal poison produces morbid phenomena in the constitution peculiar to itself. It is not more difficult to believe that a tubercular poison in the blood should give rise to the formation of tubercles in different parts, than that small-pox virus should produce pustules on the skin.

I conceive that this virus is sometimes transmitted from the blood of the parent to that of the child, developing itself in its effects at different periods

of life Of the existence of tubercles in the fœtus we find two examples related by Mr. Langstaff; one by Husson; two by Ohler; and one by Chaussier. I examined the body of an infant that died in a state of extreme emaciation at the age of four months, the mother of the child having been in the last stage of tubercular phthisis when she gave birth to it. I never witnessed so remarkable and extensive a display of tubercles, both miliary and of a larger size; the former semi-transparent, the latter grey in colour. The lungs on each side, both upper and lower lobes, the liver, the spleen, the mesentery, and peritoneum, were universally studded with tubercles. I cannot relate a more striking instance than this of the tubercular disease in its highest activity, or more favorable to my theory that a specific virus in the blood is the source of tubercular formation. The child had received no other food than at first its mother's milk for a short period, then cow's milk diluted, and afterwards for about a fortnight, breast-milk from a wet-nurse.

Of the Softening of Tubercles.—Eminent pathologists have differed on this point: Laennec asserting that it always begins in the centre; Andral that it may equally take place at the circumference. Dr. Carswell observes, that "softening begins most frequently at the circumference of firm tuberculous matter, or where its presence as a foreign body is most felt by the surrounding tissues." He also states, "the most important fact connected with the chemical composition of tuberculous matter is, that either from the nature of its constituent parts, the mode in which they are combined, or the conditions in which they are placed, they are not susceptible of organization, and consequently give rise to a morbid compound, capable of undergoing no change that is not induced in it by the influence of external agents." He thinks with Andral that the softening process is to be ascribed to the admixture of pus secreted by the tissues subjected to the stimulus of tubercle as a foreign body, and not to any change originating in the tubercle itself."

Neither of these authors appears to have been aware of the cellular structure of tubercle, the most essential part of its constitution. I think it too much to assert that the tubercle is incapable of undergoing any of the softening change from an alteration in its own constituent parts. The low degree of vitality which I conceive a tubercle to possess by virtue of its cells may not be sustained, and then a decomposition of its chemical constituents may take place. Yet I am quite of opinion that, as a general rule, the change in the tubercle from a consistent, and more or less firm, to a softened state, is secondary, and consequent to the ulcerative action which is set up in the tissues in which it is situated, and to which it has proved an irritant.

It is a remarkable circumstance, however, that in some cases the lungs have for a long time tolerated the presence of tubercles, without affording the characteristic signs of their presence—without cough being induced, or symptoms of pulmonary irritation of any kind having occurred, or not so as to excite notice. Occasional instances have happened of persons dying from some sudden accident, that on being examined have afforded the discovery of tubercles in the lungs, no complaint of pulmonary suffering having been made during the lifetime of the individuals. Numerous authors have rendered a similar statement. Yet I do not believe that the development of the tubercular disease, to the extent of the formation of tubercles, can ever take place, without any injury or inconvenience to the system. Although the symptoms may not always be characteristic of pulmonary affection, yet they will exist in some shape, and the general health will be more or less interrupted, openly or insidiously.

When the tubercles have softened, and when the expectoration necessarily is in part composed of the expulsion of some of the contents of a cavity, the experienced eye will readily detect the debris of tubercles occasionally appearing, and which commonly resembles small morsels of softened cheese: the whole mass of the sputum in this case being composed of highly morbid

bronchial mucus: of ill-conditioned and imperfect pus; and the liquid tubercular matter. By examination with the microscope, you do not find the perfect pus-globule as in pure pus. In the sputum of acute bronchitis, and in the morbid condition of the membrane which so frequently attends the tubercular formation, you will find, by the microscope, pus-globules, more or less perfect, in conjunction with the mucous-globule.

It is relatively a favourable sign when the sputum is without offensive odour. When this prevails in a high degree, it indicates a degenerate condition of the lung, and that dangerous ulcerative action is going on. It must always be an encouraging circumstance when the quantity of expectoration lessens; when from having been offensive it loses odour; and when losing its morbid characters of greenish or rust colour, of raggedness, and foul purulent appearance, it approaches gradually to the condition of mucus not greatly changed from that belonging to slight catarrh. The admixture of blood in the sputum is to be distinguished from the more serious occurrence of hæmoptysis; for the one may be considered as an exudation from the congested mucous membrane; the other, a consequence of ruptured vessel.

The examination of a portion of the sputum interposed between two pieces of plate glass before the flame of a taper is instructive: when the secretion is abounding with pus-globules, more or less of the prismatic colours will appear, and a well-defined ring; and *vice versa*, as they may be few in number there will be little more than a field of orange colour; when it is simply mucous, there will be little or no colour appearing. This simple optical method, therefore, is to a certain degree instructive; but the microscope is more instructive. When tubercular matter is coughed up in admixture with the morbid mucus and imperfect pus, the peculiar cellular structure of tubercle with its granules will be shown by a microscope of suitable power.

It is demonstrated that respiration can be carried on for the mere purpose of the continuance of life, with very little of the lung left free from disease, and makes us know that if we can improve our art so as to bring about the healing of a cavity, and conquer the tubercular diathesis, or, in other words, effectually alter the state of the blood, so as to prevent future tubercular formation, we may have the satisfaction of restoring the patient from a very discouraging state of organic disease of the lungs to tolerable, although not perfect, health.

In reflecting on the nature of this disease, I think it is obvious we have to look to two important circumstances; first, and the most important, the specific morbid condition of the blood; and, next, its consequence, and that is which is the most serious and the most engaging our present consideration, the production of tubercles in the lungs.

By some authors the immediate production of tubercles has been referred to local inflammatory action; but the error of this opinion is shown by the fact, that abundant examples may be found of the most marked evidence of tubercular formation and ulcerated cavities, without any of the signs of inflammation having existed in the immediately surrounding tissues. This point has been well argued by Laennec, who pronounced a very positive opinion against the inflammatory origin of tubercles.

Anatomy of the Lungs.—The exact anatomy of the bronchial tubes and air-cells of the lungs has frequently been the subject of controversy, and up to the present day may be considered to remain *sub judice*.

A paper of great interest has lately been read to the Royal Society, and is in course of publication in the Transactions, contributed by Mr. Addison, of Malvern, who has often distinguished himself in pathology. The following compendious view of the subject, founded on the author's paper, will, I hope, correctly express his opinions:—In the fœtus the bronchial tubes enter the lobules of the lungs. Their coats become extremely thin, and there are

little folds in their interior. As yet, in the fœtus, there are no air-cells, but at birth the whole of the delicate extremities of the bronchial branches in the interior of the lobules become distended into air-cells, which are formed by the pressure of the atmosphere acting on the delicate expansible membranes which constitute the *intra-lobular* branchings of the bronchi. The pressure, acting more between the little folds of the membrane, forms the cells.

I know that Mr. Addison entertains the following opinion in regard to aeration: that the air-bubbles which fill all the cells, are seldom or never changed; that the columns of air expired or inspired is not more than sufficient to occupy the *tubes;* that his *lobular passages and the air-cells* have their oxygen renewed by the imbibition of *air-bubbles*, which, in the minute structure of the lung, are so small, and adhere to the tissue so strongly, that they cannot be expelled by any force short of lacerating the cells, and therefore they are not likely to pass in and out during respiration.

In the progress of our subject, the important question now presents itself, —What are the chief leading circumstances which induce this most frequent and most fatal of all diseases, consumption? *Hereditary* predisposition. What is commonly called a family tendency to consumption, is unfortunately an affliction of ordinary occurrence. Where this evidently exists, or even when suspected, more than usual attention should be paid to the early management of the constitution, and every care should be used towards establishing the strength of the body. Of such importance is free and regular exercise in the open air, that it is even better to run the risk of getting an occasional cold than forego this advantage, using, of course, the ordinary protections of clothing and other means against bad weather. It is absolute destruction to confine children to very warm rooms, allowing them to go into the open air only on a fine day. I have now and then witnessed with deep regret the commission of this lamentable error. A more delicate management is of course required for girls than boys, but for them even I would earnestly advocate the principle of free exercise out of the house on every day when not prohibited by bad weather; the range of the garden or the fields with unshackled limbs, and the happy buoyancy of nature; rather than the stately formal walk, which does not sufficiently conduce to that active employment of the muscles necessary to give a quickened circulation, increase the play of the lungs, and bring bloom into the cheek. In certain pneumatic experiments, it is shown how little expansion, comparatively to a full one, the lungs undergo in ordinary passive respiration.

I think it probable that in this the ordinary action of the lungs, the upper lobes expand much more than the lower; and that their delicate texture being more exposed, may a little explain why tubercles are so much more frequently found in the upper lobes than in the lower. If my idea be correct, the upper lobes must have the most immediate communication with the atmosphere, and be the most subject to its several influential conditions.

On the Inhalation of Iodine.—Although the tubercles of the lungs are, in my view of the subject, the offspring of a morbid cause existing in the blood, and therefore not the whole disease we have to treat, yet they constitute the most important feature of the disease, and must always engage our most serious consideration. As foreign bodies only, they must be more or less a source of irritation to the lung. I think it highly probable that they may differ very materially in their degree of virulence, and that they may not produce their whole effect simply as foreign bodies. I have repeatedly found large calculi strongly impacted in the parenchyma without any evidence of irritation being produced, even when the portions were angular, and much more likely, one would suppose, to create irritation than soft substances. Also, we know that the lungs will sometimes tolerate the presence of tubercles for indefinite periods of time. But in whatever way we reason on the subject, it must be highly desirable to effect the removal of tubercles

from the lungs, for independently of their being usually so direct a cause of dangerous irritation to the organ, they do either by their pressure on the air-cells, or by an actual occupation of them, materially interfere with regular aeration and the decarbonization of the blood. Chronic bronchitis is always more or less an attendant on the tubercular condition when at all active, and hence theory must be in favour of applying to the affected parts a medicinal agent of sufficient power to produce a decided change of action. On such grounds I was led, about fourteen years ago, to make a trial of the inhalation of iodine in the way of inhalation, as being a medicine highly capable of stimulating the absorbents of the lungs, which are not few, to remove tubercular matter; of inducing a healing process in a cavity when formed; and of correcting the morbid action of the bronchial mucous membrane. Having in my book on inhalation entered upon much explanation of this remedy, with cases in illustration of my doctrine, I may be allowed to be brief on the present occasion. The addition of a *saturated* tincture of conium has a very useful effect in softening the action of the iodine, and in soothing the mucous membrane.

Experience has amply justified my recommendation of this treatment, and I have had the happiness of succeeding in very numerous cases, in which, according to all my former experience with the old methods of practice, I must have failed. It cannot be the reproach of any treatment that it should fail in the worst cases—those which are either become incurable from long neglect, or from their originally inveterate nature. This truth I also assert, that even when the case is too urgent to admit of success, certain relief will be afforded.

It is essential that a glass inhaler should be used; that it should be of good construction, and well fitted with capacious tubes; for then the patient, however feeble his respiratory powers, can inhale without any difficulty. The patient should be instructed to inspire with so much effect as that, without being painful or fatiguing to him, the volatile properties of the mixture may traverse the air-passages to a sufficient extent. As shown in my pneumatic experiment the natural force of ordinary inspiration would be very insufficient; and this fact, together with the great advantage of administering an exact dose, and gradually and skilfully increasing the proportions, must, I think, convince every dispassionate person of the great superiority of this *exact* method over that occasionally recommended, of having the vapour of iodine diffused over the apartment, in order that the patient should breathe in such medicated atmosphere.

I find no reason to alter the formula of the iodine solution which I have already more than once published, and which is as follows:—

℞ Iodine; Iodide of Potassium, aa. gr. vj.; Distilled Water ℥v ℥vj.; Alcohol, ℥ij. M.

To be used by inhalation

I always begin with a small proportion, in no case less than ℥ss, and in progress never exceeding the total dose of ℥v, directing two-thirds of the quantity to be used for the first half of the time, and the other third for the remainder; for otherwise, so volatile is the iodine, that the inhalation would be too strong at first, and too weak at last. The tincture of conium I use in ℥ss doses, and this being much less volatile than the iodine, need not be increased, unless the mucous membrane is unusually irritable. The inhaler should not be quite half full with water at 120°, or equal parts of cold and boiling water which give about this temperature, and which should be maintained by immersing the inhaler in a jug of hotter water, say 130°. Observations, not of full approval, have sometimes been made respecting this remedy by those who have either never used it, or made only very imperfect trials of it, and evidently without that confidence in its utility which is neces-

sary to the satisfactory result of any medical treatment that is adopted. Unless the physician himself feel confidence, he cannot inspire his patient with faith; and which, to a certain degree, is very necessary to the success of medicine.

It has sometimes been called merely a local treatment, and were it so, how much deduction would be made from its importance? But even this criticism is not just. The inhalation acts upon the whole system, as I have had proof of by witnessing, even inconveniently, the constitutional effects of iodine; but to this admission let me add, such disagreement has not happened in so large a proportion of instances as one in a hundred. When I deliberately affirm this as a truth, surely the most timid cannot shrink from the remedy. What medicine is there of any power which does not occasionally disagree in particular idiosyncrasies of constitution? Further, I never, in important cases, confine myself to the use of inhalation, but have recourse to all other things to which my judgment directs me; and hence another reason why the fastidious ought not to think lightly of the treatment; or call it superficial.

I am deeply and conscientiously convinced that in proportion as the inhalation of iodine and conium in tubercular phthisis and chronic bronchitis is more used and really understood, and done justice to, so will its high value become known, and its good name be established. I pronounce it to be a very far superior remedy for inhalation than chlorine, creosote, or any other means which have been tried. In no other medicinal combination, indeed, can I find an approach to the curative power which this in a large degree possesses. This practice should be persevered in for a great length of time, beginning with twice a day, soon increasing to three times, then decreasing to twice, afterwards to once, and even occasionally suspending its employment; by which plan, on its renewal, its efficacy may be the greater. As to the time also of continuing the inhaling; five or ten minutes may be mentioned for the beginning, to be increased in progress to fifteen, twenty, or twenty-five minutes.

For the sake of humanity, then, I recommend the treatment; and will repeat what I have said in my preface to the work before mentioned, "it is not on selfish grounds that I advocate the practice. What concerns my reputation or advantage, is personal and transient, and of little moment; what relates to science and the interest of mankind, is for all ages, and of inestimable importance."

As an internal alterative, I think very favourably of the following mixture, which may be taken by itself, but usually agrees better when mixed with an equal proportion of very hot milk; two, or three, or four tablespoonfuls for the dose, two or three times a day:—

℞ Bruised Sarsaparilla, ℥iij; Lime Water, ℥xij.

Macerate for twelve hours and strain.

℞ Of the strained liquid, ℥xj; Syrup of Sarsaparilla, ℥vj; Alkaline solution (Brandish,) ℥ij to ℥iij; Tincture of Orange bark, or compound Tincture of Gentian, ℥ij to ℥ss; Iodide of Potassium, gr. ix, to gr. xii.

Make into a mixture.

After a longer or shorter course of this medicine, I prescribe a preparation of quinine with the aromatic elixir of vitriol, and with or without the addition of small doses of sulphate of iron; or, in other instances, I am led to prefer that excellent preparation, the mistura ferri composita.

The usual practice of giving expectorants, with a view to free the bronchial morbid secretion, I disapprove of, as tending to debilitate the stomach, the powers of which it is so important to strengthen and improve; and for

this object of free expectoration, I trust to inhalation and means that support the strength. The addition of a saturated tincture of ipecacuanha to the inhaling mixture, is an useful incentive to expectoration. It is always important to the invalid that a good portion of sleep at night should be obtained. Sometimes this advantage will be allowed by the disease; but in the majority of cases, aid is required on account of the irritation of cough, and of nervous restlessness.

The following soothing syrup I have had reason to approve:—

℞ Solution of Acetate of Morphia, (gr. j to gtt. vj.,) gtt. x.; Dilute Sulphuric Acid, 3ss to 3j; Syrup of Tolu, 3ix.

Make into a syrup.

Of this a teaspoonful is the ordinary dose, mixed with a little water; and it may be repeated in the night if necessary. If insufficiently anodyne, a small portion of Battley's sedative may be added. If the stomach require the addition of a stomachic ingredient, the tincture of cinnamoni composita is the best that I can mention.

Night perspirations are sometimes so excessive, as quickly and seriously to increase the debility of the patient. I have found much advantage from the free application to the chest, before and behind, and the armpits, of a lotion composed of acetic acid and water; substituting for the two proportions of water, the same of an infusion of pure tannin; two drachms to be macerated in twelve ounces of hot distilled water for twelve hours, and then strained.

One of the most distressing complications with pulmonary tubercles is a tubercular formation on the peritoneal coat of the intestines, or in their mucous follicles, so frequently accompanied with ulceration, in patches, of the mucous membrane. Diarrhœa of a most troublesome character ensues, and the patient is quickly reduced to great debility. I attended a lady who had recovered in a remarkable manner from pulmonary tubercular phthisis, and having remained well for several years, was seized with all the symptoms of intestinal irritation from tubercles. The vital powers became so prostrate, I thought she would have sunk. Much advantage was derived from small lavements of a strong decoction of pomegranate and starch, with the addition of tincture of opium, and cordial stomachic restringents with opium, and as supporting a diet as the stomach would allow, with the addition of suitable portions of brandy and wine in the respective nourishments, or in water. She quite recovered, and has not had any return of the pulmonary disease.

Counter-irritation is a part of auxiliary treatment too important to be overlooked. I think it is chiefly called for when there is a tendency to hæmoptysis or pleurisy; and for the most part I am induced to give the preference to small blisters. In some individuals, however, this treatment causes so much irritation and consequent depression of strength, that it makes a doubtful balance of good and evil. Less of this inconvenient consequence results from the use of the ascetic solution of cantharides as originally prepared by Mr. Garden, of Oxford-street, according to my prescription; but although it takes effect promptly and with certainty, it does not act so much as the plaster of cantharides on the deeper-seated vessels, and causes a thinner discharge.

London Lancet, Aug. 6, 13, and 20, 1842, p. 644, 685, and 714.

12.—TREATMENT OF ACUTE RHEUMATISM.

By the late Dr. Hope.

The late Dr. Hope published in 1837 an account of a particular mode of using calomel and opium in this disease, which mode he learned from Dr.

Chambers, and which is followed, more or less closely, by many other physicians. It is said to be so successful, that even the details of it ought to be known. The plan is described as follows:—After a full venesection, or even two, in the robust, but without any bleeding in the feeble and delicate, eight or ten grains of calomel, with a grain and a half of opium, according to the age of the patient and the severity of the case, are administered every night; and followed every morning by a strong black dose, sufficient to insure four or five stools at least. With this treatment is combined, thrice a day, a saline draught containing from fifteen to twenty minims of the *vinum colchici*, and five grains of Dover's powder. When the pain and swelling are greatly abated, if not almost gone (which Dr. Hope affirms to happen often within two days, and almost always within four), the calomel is omitted; or it is omitted sooner if the gums become at all tender. The opium, however, is continued to the amount of a grain or a grain and a half at bed time; and in severe cases a grain also at noon is added: and the colchicum, and the black dose, are still given as at first. Dr. Hope considers it a case of exception if the patient be not well in a week.

The following are stated by Dr. Hope as being the great advantages of this plan of procedure:—1. That the patient is generally sound, well, and fit for work, in a week or ten days after the pains have ceased. 2. That the gums are rarely affected, especially if you previously ascertain that the patient has not a morbid susceptibility of mercury. 3. That it is rare to see inflammation of the heart if the treatment is early begun; not oftener, he thinks, than in one of a dozen cases. 4. If the slightest symptom of endo- or peri-carditis *does* supervene, a few extra doses of calomel and opium, given every four or six hours, will generally affect the constitution in twenty or thirty hours, which, with two or three cuppings or leechings on the region of the heart, almost always places the patient in a state of safety.

Medical Gazette, July 15, 1842, p. 503.

13.—ON BLEEDING FROM THE URINARY ORGANS.

By Dr. Watson, Lecturer on the Practice of Medicine, King's College, London, &c., &c.

[Blood, of course, alters the natural colour of the urine whenever it is mixed with it; it may cause it to assume a bright red or a dark hue, to become brown like coffee, or even approaching to blackness. But when the urine is so discoloured, we are not always to conclude that it is by the admixture of blood, as many substances may cause it to assume a variety of appearances. The prickly pear or Indian fig, the cactus opuntia of botanists is one of these substances—many others may be named, as beet root, madder, &c.]

When blood is present in any considerable quantity, a portion of it subsides to the bottom of the vessel, and may be recognised without any difficulty. And even when there is not enough blood to give a marked and characteristic deposit, a very small admixture of it will be found to disturb the natural transparency of the urine, rendering it of a smoke-brown, or dull cherry colour: whereas the reddish or pink urine which contains no blood is clear and untroubled; and if, on cooling, it throws down a sediment, that sediment may be redissolved by heating the urine—a result which does not take place when a portion of blood has been deposited. Another rough test is, that a mixture of urine and blood tinges a piece of white linen dipped into it of a red colour. But the simplest and most satisfactory criterion is afforded by gradually raising the suspected urine to the boiling temperature. If it contains blood, a greyish-brown flocculent precipitate,

consisting of coagulated albumen tinged with the colouring matter of the blood, will form, and gradually subside, and leave the supernatant liquid clear, and with its natural tint.

We have by no means accomplished the diagnosis when we have merely ascertained that there is blood in the urine; and that the case is a case of hæmaturia. The question remains, of what is such hæmaturia a sign? The blood emerges from the urethra, but it may have been poured out at any point of a long and somewhat complex tract of mucous membrane. It may have proceeded from one or both of the kidneys; from each or either ureter; from the bladder; from the prostate gland; or from the urethra.

Hæmaturia, strictly idiopathic, must be very rare. Cullen remarks that neither he nor any of his friends had ever met with an instance of it. I shall mention presently the only example of hæmorrhage from the urinary organs, apparently idiopathic, that has fallen under my own notice.

Blood is excreted with the urine in that acute affection of the kidney which I have already spoken of as lying at the root of most, if not all cases of febrile dropsy. The albuminous urine proper to the chronic form of Bright's disease sometimes contains the colouring matter as well as the serum of the blood. Hæmaturia is occasionally, I believe, vicarious of some other hæmorrhage, and especially of bleeding from the hæmorrhoidal vessels: so that it is always right, in obscure cases, to inquire whether the patient has been habitually subject to hæmorrhage from the rectum: and if so, whether that hæmorrhage is suspended. These cases have even been called *hæmorrhoides vesicæ*.

Hæmaturia occurs also, independently of any strictly local complaint, in the course of certain disorders which affect the system at large; especially in scurvy and purpura hæmorrhagica. Bloody urine is sometimes a symptom, and one of the most fatal augury, in typhus fever, small-pox, measles, and the plague.

But setting aside these more general forms of hæmaturia, let us inquire what local affections of the urinary organs themselves may give rise to hæmorrhage: and how, under different circumstances, we are to interpret this symptom.

One very common source of hæmorrhage from the urinary passages, is the presence within them of calculous matter. The pressure occasioned by the aggregation of the earthy mass, when it is formed in the kidney, or by its accidental change of position, lacerates, or lays open by ulceration, some of the smaller vessels with which it is in contact. And in those cases in which a calculus descends into the bladder, and is ultimately voided, it may, in succession, give rise to hæmorrhage, first from the kidney from which it is separated; secondly, from the narrow tube of the ureter through which it is forced; thirdly, from the bladder which it enters, and wounds, or irritates; and, fourthly, from the urethra in the last stage of its progress out of the body.

There will be the same liability to hæmaturia, if the concretion, instead of coming down from the kidney, is formed originally in the bladder. The appearance of blood in the urine suggests, therefore, in many cases, the fearful suspicion, that there is, or is likely to be, a stone in the bladder. Dr. Heberden, in his *Commentaries*, says "Urine made of a deep coffee colour, or manifestly mixed with a large quantity of blood, has within my experience been very rarely the effect of any thing but a stone in the urinary passages. I therefore, suppose a strong probability of this cause, whenever I see this appearance."

Again, blood may proceed from the kidney, or from the bladder, in consequence of malignant fungous growths, to which those parts are liable; a disease which, though more surely fatal than the stone, is scarcely, to the unhappy subject of it, so appalling.

Hæmorrhage may take place from the surface of the bladder from chronic disease, not cancerous, of that membrane. Mr. Howship has recorded an instance of this kind which occurred in Mr. Heaviside's practice. An old East Indian, who had long been subject to nephritic complaints, was suddenly seized with what was thought to be retention of urine. A catheter was passed, but as no water flowed it was supposed that it had not entered the bladder, in the situation of which there was a manifest tumor. The patient died the next day; and the bladder was found distended by a very large coagulum of blood which had come from the diseased mucous membrane. There was no trace of hæmorrhage in the kidneys nor in the ureters.

Now we judge of the exact seat of the hæmorrhage, and of its cause, partly by the nature and appearance of the effused blood, and partly by the symptoms that precede or accompany the bleeding.

Dr. Prout states that "when blood is derived from the *kidney*, it is in general equally diffused throughout the whole urine: on the contrary, when derived from the bladder, the blood for the most part comes away in greater or less quantity at the termination of the discharge, the urine having previously flowed off nearly pure."

There are also certain modifications of the sensible qualities of the excreted blood, by means of which the same distinguished physician thinks he can pronounce, with considerable confidence, that the hæmorrhage is owing to malignant disease. "The red particles of the blood (he says) discharged in the earlier stages of fungoid disease have often a remarkable appearance, and appear to the eye larger than natural; so that after they have subsided to the bottom of the urine, they at first sight somewhat resemble grains of lithic acid gravel, and, like that substance, when the vessel is inclined, may be distinctly seen to roll along the bottom. From this peculiar appearance of the red particles of the blood, the presence of malignant disease may often be suspected before the symptoms assume a decided character." In a more advanced stage of the disease, there is often a dark-coloured offensive bloody sanies in the urine, and more or less of mechanical impediment in passing it. I should conceive that the microscope might aid in the diagnosis of such cases.

There is one phenomenon, which whenever it occurs, is very characteristic of hæmorrhage from the kidney, or from the commencement of the ureter. I mean the expulsion, with the urine, of slender cylindrical pieces of fibrine, which have evidently been moulded in the ureter, and subsequently washed down into the bladder by the descending urine. These little coagula are commonly of a whitish colour, the red particles of the blood having been removed; and they look like slim maggots, or small worms. They denote with much certainty, that the hæmorrhage which they accompany is renal.

Such, then, are some of the points of diagnosis furnished by the qualities of the excreted fluid itself.

The bleeding may be presumed to come from the kidney, or from the upper part of the ureter, when it is accompanied or preceded by a sensation of heat, or of weight, or by some degree of pain, in the situation of the kidney; especially if these uneasy feelings are confined to one side of the body. This presumption of course will be strengthened if calculi have been known to descend from the kidney; and converted into certainty if the patient suffers, together with the hæmaturia, a fit of the gravel; and if there be no symptom of stone, or disease in the bladder.

On the other hand, when no symptoms referable to the kidney or ureter are present, while there are signs of stone, or of disease of the bladder, or of a diseased prostate—a mixture of mucous with blood; occasional retention, or a sudden stop in the stream of urine; pains referred to the glans penis immediately after the bladder is emptied—then we conclude that the blood proceeds originally from that receptacle.

When pure blood comes away, either *guttatim*, or in a stream, unmixed with urine, and neither preceded nor accompanied by any desire to make water, it is probable that the *urethra* is the locus of the hæmorrhage.

Bleeding from the surface of the urethra doubtless may, and commonly does proceed from some mechanical injury done to that channel: as in the passage outwards of a fragment of stone, or inwards of a surgical instrument. But it is probable that blood is sometimes exhaled from the same membrane in considerable quantity, under circumstances which favour or produce a strong determination of blood to the genital organs. A young man came to the Middlesex Hospital with hæmorrhage from the urethra, and said that he had lost a considerable quantity of blood in this way, within a few hours. The hæmorrhage appeared to have been the consequence of excessive indulgence in sexual intercourse. His own account of the matter was that he had passed the night with a female, in whom the monthly period had just returned; and he ignorantly fancied that the hæmorrhage from his own person was the result of a sort of contagion. However, the bleeding was permanently arrested by the introduction of a bougie, which was allowed to remain for a short time in the urethra. This was the solitary instance to which I alluded just now, of, perhaps, idiopathic hæmorrhage, occurring within my own knowledge. When the hæmorrhage comes originally from the urethra, the blood may regurgitate into the bladder, and coagulate there; and mislead an observer into the belief that the hæmorrhage was vesical.

It appears, then, that, in many instances, certain local symptoms are associated with hæmaturia, and point distinctly to the part of the urinary apparatus whence the blood proceeds.

But many cases are very obscure. Blood sometimes appears, mixed in greater or less quantity with the urine, when there is no pain, nor any other sign which would lead us to fix upon one part rather than another as the source of the hæmorrhage. Now I believe the hæmaturia, bearing this undeterminate character, will generally turn out to be *renal*, and to depend upon earthy concretions in the kidney. It is true that the hæmorrhage which results from cancerous disorganization, whether of the kidneys or of the bladder, may also be painless. But cancerous disease of these organs (unless it extends from parts in the neighbourhood, as from the rectum, or from the uterus, to the bladder) is very rare; and when it does occur, the nature of the case may usually be ascertained from those peculiar qualities of the effused blood which I have mentioned as being characteristic of malignant growths.

A calculus can seldom remain long in the *bladder*, at any rate will seldom cause bloody urine, without giving some other notice of its presence there: but concretions form in the kidney, sometimes in great numbers, and reach a considerable size, and remain there long, without furnishing any signal from which we might suspect their existence; except, perhaps, the occurrence of hæmaturia. We know this, because calculi are frequently met with in kidneys of persons who have never sufferred any pain or obvious derangement of the urinary organs during life; and because, in other persons, in whom such calculi pass down from the kidney towards the bladder, the first notice of their existence is often given by the acute suffering they inflict during their transit through the narrow ureter.

You will perceive, from what I have said, that the *treatment* of hæmaturia resolves itself, in most cases, into the treatment of the disorder or bodily condition with which the hæmorrhage is associated, and of which it is merely a symptom.

Sometimes, however, the bleeding itself is so profuse, or so long continued, as to require direct efforts on our part towards its restraint.

"When (says Dr. Prout) the bladder becomes distended with blood, and complete retention of urine in consequence takes place, recourse must be

had to a large-eyed catheter, and an exhausting syringe, by the aid of which, and the occasional injection of cold water, the coagula may be broken down and removed. If the hæmorrhage be so profuse that the bladder becomes again distended with blood in a very short time, the injection of cold water into the rectum or bladder is sometimes of great use; and should these means fail, from twenty to forty grains of alum may be dissolved in each pint of water injected into the bladder; a remedy that seldom fails to check the bleeding, even when the cause is malignant disease. I have never known any unpleasant consequences follow the use of this expedient, and have seen it immediately arrest the most formidable hæmorrhage, when all other means had failed; and when the bladder had repeatedly become distended with blood, almost immediately after its removal."

Among remedies given by the mouth, the same physician thinks highly of the acetate of lead. I have mentioned before, in these lectures, a nostrum called, after the name of its inventor, *Ruspini's styptic*. This has often been known to put a stop to hæmorrhage which had resisted other remedies. I will read you one example of this from Sir Benjamin Brodie's published lectures. Speaking of hæmaturia, dependent upon disease of the prostate gland, he says:—"Those medicines which operate as styptics when taken internally, and which are useful in cases of hæmorrhage from the lungs, are also useful in hæmorrhage from the prostate. I had a patient with very diseased prostate. A frightful hæmorrhage took place. The usual methods of treatment were adopted, but were of no avail. The skin became pale, the pulse became weak, and the patient was exhausted; yet the bleeding continued. Large quantities of blood were drawn off with the catheter: nevertheless the bladder continued to become more and more distended with blood, and was felt prominent in the belly as high as the navel. All other remedies having failed, I gave the patient a dose of the nostrum known by the name of Ruspini's styptic, and repeated the dose two or three times in the course of the next twelve hours. In about half an hour after the first dose was taken the hæmorrhage ceased; and it never returned. The patient lived a year and a half afterwards, and there was no reason to believe that any ultimate harm arose from the bleeding."

For a long while this nostrum seems to have baffled analysis. The late Dr Maton told me that Dr. Wollaston had examined it, and had arrived at the negative conclusion, that it contained no metallic substance. Dr. A. T. Thomson has since announced that it mainly consists of a solution of *gallic acid* in alcohol diluted with rose water.

There is no substance more highly spoken of as a remedy for internal hæmorrhages by foreigners, and especially by the French, than the extract of *Rhatany* root, the *Krameria* of our Pharmacopœia. A female was sent to me by my colleague, Mr. Arnott, complaining that for some weeks she had been passing bloody urine. She had gone through the ordinary routine of treatment without benefit. There were no symptoms present which threw any light on the precise source or cause of the hæmorrhage. I recommended a trial of the rhatany, and she began to take a scruple of the extract, mixed with water, three times a day. As in Sir Benjamin Brodie's case, the hæmaturia ceased after the first dose, and it did not return for many months. I mention this instance the rather, because the *gallic acid* enters into the composition of this vegetable extract also.

Now the gallic acid is one of those substances which, when introduced through the digestive organs into the blood, passes through the round of the circulation unchanged, and re-appears in the urine. We may conceive, therefore, that it stays internal hæmorrhage by exerting its astringent property upon the ultimate capillary blood-vessels in its passage through them. It certainly is applied, in solution, after its elimination from the blood, to the

urinary passages; and thus, in hæmaturia, it may be presumed to produce its styptic effect upon the bleeding surface.

To the same principle are owing, I believe, the astringent and styptic virtues of the uva ursi, bistort, tormentil, the pomegranate, kino, catechu, and the several preparations of gall-nuts. I am sorry that I have not had opportunity of trying the gallic acid itself, in its separate state; for I have heard of several instances of its successful employment in cases of internal hæmorrhage. If, as I believe, it really has this power, it is very desirable that it should be prescribed in a more definite and precise manner than is afforded by its natural combinations with so many different vegetable matters.

Medical Gazette, July 8, 1842, *p.* 547.

14.—ON THE NATURE AND TREATMENT OF DROPSY.

By JAMES O'BEIRNE, M.D., Vice-President of the Royal College of Surgeons in Ireland, Surgeon Extraordinary to the Queen, &c., &c.

[One of the most interesting papers published in the journals within the past half-year, is this by Dr. O'Beirne. We are only sorry that our space will not allow us to give it without abridgment, but we have endeavoured to condense it with as little injury to its merits as possible. Dr. O'Beirne proceeds at once to his point without any unnecessary preface.]

From what system of vessels is the fluid effused in dropsy derived? It is generally considered to be effused from exceedingly fine vessels, called exhalants, which have their origin in the capillary system, and terminate on the surface of membranes and the cellular laminæ of the skin, or in the tissues of organs. But such is their extreme tenuity, that it is impossible, by the ordinary means, to ascertain whether they belong to the arterial or the venous system. On this point, however, there are other means of approximating to the truth. Thus, arteries are not very extensible; when tied, they rarely pour out any of their contents, but relieve themselves by the enlargement and anastomosis of their small lateral branches; and when not tied, but much distended, their minute branches pour out either blood or coagulable lymph, not serum: veins, on the contrary, are very distensible, and when tied, compressed, or obstructed in any way, they rarely relieve themselves by their small lateral branches, but by extension of their coats, and if that prove insufficient, by the effusion of serum, not of blood. No points in physiology or pathology are more completely determined than these, and the contrast which they exhibit is strikingly favourable to the conclusion, that the exhalants are intimately connected with the venous, and not with the arterial system. This being the case, it is natural to infer, that a system so connected with the source of the fluid effused in dropsy, must perform an important part in producing the phenomena of the disease. Accordingly, I shall put the truth of this inference to the most rigid scrutiny, by taking the venous system as the basis of all my inquiries on the subject.

[If it be true then, that obstruction to venous circulation is the main cause of the effusion of serum, which occurs in dropsy, it should follow, that the causes of the disease are of a nature to produce such obstruction: and such, Dr. O'Beirne proceeds to show, is the case; but as the varieties of dropsy are so numerous, he selects *hydrothorax* as an example on which he may make his observations. The causes of hydrothorax being chiefly diseases of the lungs, heart, liver, spleen, ascites in advanced stages, venous plethora, cold, and malformation of the thorax; he considers each of these separately, and shows that they all occasion *venous obstruction*.]

When any portion of one or both lungs becomes either hepatized, or occupied by tubercles, hydatids, or abscesses, that portion is no longer permeable, and consequently the capacity of these organs to admit circulation through them, is, *pro tanto*, diminished; while the quantity of venous blood to be circulated remains undiminished. Such being the unequal relation which they bear to each other, it is clear that the venous blood cannot pass through the lungs, without meeting with obstruction, proportional to the extent of impermeability so produced. Again, when, as in pleuritis, a quantity of serum is effused into the cavity of the pleura, the effused fluid compresses the lung, diminishes its capacity, and obstructs its circulation.

When the parietes of the left ventricle of the heart become either atrophied or hypertrophied, or when the valves of this ventricle, or those of the aorta, are diseased, the action of the heart, although often apparently strong, is really weak, and, of course, unequal to propelling the blood as quickly as it is received. The natural consequence is, that the pulmonary veins soon become congested, and cause obstruction to the whole of the lesser circulation. It is not unlikely, also, that the congestion of so much arterial blood may excite inflammation and hepatization of the lung, and of course, still further diminish the capacity of that organ.

When either the liver or the spleen is so enlarged as to press the diaphragm upwards into the thorax, and compress the corresponding lung, the circulation through that lung is obstructed. The same effect, but in a greater degree, is produced by the pressure which a large collection of serous fluid in the cavity of the peritoneum exerts upon both lungs.

In old or elderly persons, it is computed that the venous system contains nearly two-thirds of all the blood in the body, whilst there is no increase in the capacity of the lungs, through which that great quantity is to be circulated in a given time. It is evident that such a disproportion cannot long exist without causing obstruction of the pulmonary circulation.

It appears, then, that all the causes of the disease are divisible into two classes—those which act by diminishing the capacity of the lungs—and those which act by increasing the quantity of blood sent to the lungs; and that all of them are of a nature to produce the obstruction in question. But it sometimes happens, and not unfrequently, that several of these causes coexist in the same person, and combine to produce a proportionably higher degree of the same effect.

When the two great trunks of the venous system, the venæ cavæ, are overdistended, what are the effects produced by that distension upon the different organs and parts of the body from which these trunks receive blood? In order to give a satisfactory answer to this question, it is necessary previously to direct attention to certain circumstances connected with the effusion of serous fluid, and which so uniformly attend it as to constitute so many laws regulating its occurrence. The following are the circumstances to which I allude:—

First. In dropsy, the serous fluid is almost always effused into either the minute cells of the cellular membrane, or into large or small serous cavities, or into both. In rare cases, as in dropsy of the uterus, and stomach and bowels, it is effused from mucous membrane. But it is never effused into tissues of denser or more complicated structure, such as those of the soles of the feet, the plantar aspect of the toes, the palms of the hands, the palmar aspect of the fingers, the ears, the hairy scalp, the liver, and perhaps other internal organs. The direct inference from these facts is, that as a general rule or law, great tenuity and simplicity of structure, and, of course, equal simplicity of function, are essential to the occurrence of serous suffusion, and, consequently, that this process is one of exhalation, not of secretion.

Secondly. When a vein is obstructed, effusion of serum takes place, not at the point of obstruction, but at an infinity of points the most distant, or

nearly so, from that point; that is to say, it takes place from the numberless exhalants connected with the minute radicles or origins of the obstructed vein. Thus, for example, the pressure of the gravid uterus upon the great veins of the abdomen, causes effusion of serum into the cellular tissues of the toes, feet, and ancles, not into the cavity of the abdomen. This law is so general as to have no exception.

[The author next proceeds to show the effects which obstruction produces upon the main branches of the vena cava superior, and venæ innominatæ—and then the effects of obstruction upon the vena cava inferior and its branches.]

When the column of blood in the vena cava inferior is not only not received, but actually repelled by the right auricle of the heart; the first effect is to throw that column back upon, and raise up the valves nearest in a direct line, which are those situated at the upper extremity of each femoral vein, so that the blood cannot descend further than the external iliac veins. Neither can it find a passage downwards through the internal iliac veins, further than their small branches, all of which are supplied with valves. In this manner, the femoral, and the other veins of the lower extremities, become obstructed and distended; and the consequence is œdema of the ankles, and the feet, with the exception of their soles. Hence it is, that effusion of serum into these parts is so early and constant an attendant upon the disease. By degrees, the legs, and afterwards the thighs, become similarly affected, until the lower extremities are completely infiltrated, and present a swollen, very misshapen, and deadly pale appearance. Long before, however, the effusion has reached to this height, other parts gradually become implicated; for the right and left pudic veins are equally obstructed and distended, and the consequences of this state are, watery swelling and paleness, and disappearance of the rugæ of the scrotum, and also similar swelling and paleness, with elongation and spiral twisting of the prepuce.

[He next proceeds to the effect of obstruction upon the other branches of this large vessel, but first enters on the subject of the forces by which the blood of the great vein itself is moved upwards. It is the largest and nearly the longest vein of the body, and yet possesses no valves, and is not in contact with its corresponding artery like most other veins. It seems to be assisted in its functions by several forces, by the pulsations of the right common iliac artery, which passes over it just where the junction of the two iliac veins constitutes this great vessel; it is further assisted by the impulses of the right renal and several other arteries.

When the circulation through the lungs is so impeded that the right auricle of the heart can no longer admit venous blood as usual; when, on the contrary, that auricle at each systole repels it upwards and downwards, and when the valves of the femoral veins prevent its further descent, it is quite evident that the vena cava inferior must be relieved in some way; and it seems that the most likely, indeed the only way of relief will be by the *venæ cavæ hepaticæ*.]

These veins, three or four in number, enter the vena cava inferior, just as it is passing through the tendinous opening in the diaphragm; their mouths are large and always found wide open; they admit of reflux, for they have no valves, and water or size injected through them, passes freely into the vena portæ, and *vice versa*; they are indirectly connected with a large cellular and highly elastic organ, and one eminently capable of acting as a great reservoir; lastly, the powers which propel the blood of the portal system are very feeble compared with those which propel that in the inferior cava. In every respect, therefore, these vessels and the rest of the portal system, instead of offering resistance, seem to be constructed with the de-

sign of not only facilitating, but providing for, determination towards them. Taking, then, all these facts and arguments into due consideration, the conclusion seems inevitable, that the vena cava inferior, assisted by the right auricle, is made to act somewhat like a forcing pump, and relieves its over-distended state by driving its blood through the open mouths of the venæ cavæ hepaticæ, on to the vena portæ, thence to the splenic vein, and, finally, into the cells of the spleen, preceded, of course, by that previously contained in the hepatic veins.* According to this view, the hepatic veins act as so many diverticula, or by-paths, while the spleen supplies a large reservoir for the relief and safeguard of the inferior cava; yet, that a vein so essential to life, and so peculiarly and dangerously circumstanced required some such provision against rupture, is a point that must be admitted; for, without such a provision, its external coat, although remarkably stronger and more elastic than that of any other vein, would offer but feeble resistance to the force with which it would then have to contend, and rupture would be the frequent consequence.

[There are, however, some arguments respecting the spleen, which might be advanced to show that Dr. O'Beirne's inference is incorrect. These, however, he answers. In all the cases of extirpation of the spleen when the patients survived, they were previously in perfect health, and therefore this organ would be, in Dr. O'Beirne's opinion, in a state of contraction and rest; there being no obstruction to the passage of blood from the inferior cava to the heart, no necessity for its transfer to the spleen, and consequently, no indication of the want of such a reservoir. From the experiments of M. Assollant, who extirpated the spleen in forty dogs of both sexes, it would really appear that the spleen can be dispensed with when the animal is in a healthy state, and that its uses are chiefly manifested in states of disease. Out of these forty cases, one-half survived, and were attentively watched: "in not one of the survivors was there the least disturbance of digestion, absorption, circulation, respiration, voice, secretion, nutrition, locomotion, sensation, the senses, instinctive faculties, or reproduction." It is very unfortunate, however, that, in all these experiments, there is no mention made whether the spleen was in a state of contraction or dilatation at the time of extirpation. If in those animals who survived it had been found that the spleen was contracted, the proof of the comparative inutility of the organ in the state of health would have been of a more positive kind.

From all the facts and arguments which can be adduced, Dr. O'Beirne arrives at the conclusion that, "in the healthy state the spleen is contracted and at rest: that it contains no more blood than is poured into its cells, after becoming venous, by its nutritious arteries: and that it performs no function but that of a reservoir for the relief of overloaded states of the vena cava inferior, and the whole portal system."

In cases of obstruction to the ascent of the blood along the inferior cava, what effects might we expect to find produced on its main branches, and ultimately upon the organs from which those branches proceed?]

The organs in question are the kidneys, the uterus, and the urinary bladder. As has been already observed, both renal veins enter the inferior vena cava at a very obtuse angle, and as much as possible in the direction of the

* [A very interesting paper is published in the *Dublin Medical Press*, for Aug. 10, 1842, in which Professor Hargrave agrees with Dr. O'Beirne respecting the reflux in question, but differs as to the means of forces by which it is effected. He thinks that in cases of impediment to the cardiac and pulmonary circulation, "the blood is capable of being regurgitated into the large hepatic veins," and from these into the vena portæ and spleen. We shall find room, if possible, for this interesting paper of Professor Hargrave's towards the end of this volume.]

natural current of blood in the latter. But as it is there not only impeded, but repelled, it is manifest that the renal veins, so far from being enabled to empty themselves as usual, must even be subjected, more or less, to the pressure of the column of blood in the cava. When these veins are so circumstanced the circulation through the kidneys must be greatly disturbed, and, as a natural consequence, the functions of these organs are imperfectly performed. The over-distended state of these veins is, then, only relieved by the effusion of small quantities of their serous contents into the pelves of these organs; while the blood of their minute arteries, having ceased to be admitted by their corresponding venous radicles, must, at least in small quantities, be poured into the same cavities. Hence, the urine becomes scanty, high coloured, and albuminous. But, as the disease proceeds, even this kind of relief ceases, and with it, the function of secretion, and there is then total suppression of urine. This explanation of a symptom so constantly attendant upon dropsy, is strongly supported by practical facts. In the first place, I have frequently found, that in cases where there was almost a total suppression of urine, the abstraction of even a moderate quantity of blood from the arm caused the kidneys to actively resume their functions in a few hours, and without the aid of any diuretic. Again, it is well known that the same diuretics which have failed to act before, often act energetically after venesection. But, to come from the functions to the structure of these organs, it is obvious that their circulation and functions cannot be thus suspended for any great length of time, without corresponding disorganization of their substance; so that, after all, diseased states of the kidneys may be the consequence, not the cause of dropsy.

From the same cause, the veins of the urinary bladder, which are very numerous, also become so overloaded as to be forced to effuse some portion of their serous contents into the cavity of that viscus.

[After this sketch of the state of the general venous system in dropsy, the author proceeds to take a similar view of the vena portæ and its branches.]

When the over-distended state of the inferior cava is relieved, as has been shown, by repeated refluxes through the venæ cavæ hepaticæ, it is obvious that the circulation through the liver is reversed in its direction; and that the blood which circulates through this organ is chiefly that of the inferior cava, not that of the venæ portæ, which is best adapted to the secretion of bile, and which, from containing the nutritious substances absorbed from the stomach and intestines, must be essentially different from the blood of other veins. It is not from these combined causes that even in dropsies unaccompanied by any organic disease of the liver, the stools are generally clay-coloured? When all the branches of the vena portæ become much overloaded by the repetition of the refluxes in question, it is also obvious that these vessels will effuse their serous contents into the cavity of the peritoneum, and cause ascites; or, as more rarely occurs, into the cavity of the stomach and intestines. The reason why the latter of these terminations is so rare, is evidently the greater facility for effusion presented by the delicate and simple structure of the peritoneum, as compared with either the stomach or intestines. But all these consequences may arise from causes unconnected with the general venous system, and solely depending upon disease of the different organs which return their blood to the vena portæ. Thus, if tubercles, masses of adipocire, hydatids, abscesses, or collections of blood, form in the liver, all the branches into which the vena portæ divides in the substance of that organ, become compressed and their circulation impeded; if, on the contrary, the size of the liver becomes diminished, and its substance condensed, as in cirrhosis of that viscus, the same results necessarily ensue; if the pancreas becomes enlarged by disease, the splenic vein is unavoidably subjected

to compression, and the consequence is, venous congestion of the stomach, omentum, and spleen; or the enlargement of the viscus may be such as to extend to, and cause, pressure of the venæ portæ itself. As to the spleen, it has already been fully considered. It is scarcely necessary to say that such states are, *per se*, sufficient to cause either ascites or effusion of serous fluid into the stomach and intestinal canal.

The plan of inquiry just followed has enabled me to bring into view, and to explain dropsy as it occurs in various cavities, large and small; but it remains to consider that which is chiefly seated in the cellular tissue, and which is either not attended, or attended but in a slight degree, with effusion into the lungs or other organs. I mean that common form of the disease, called Anasarca. The general cause of this affection is cold, or cold combined with moisture. The effect of this agent is, as has been already stated, to suddenly repel a quantity of venous blood from the whole surface of the body towards the deep-seated veins. The valves which all the small veins possess prevent this blood from returning to the surface, while current after current urges it onward to the heart and lungs. But such a quantity is so disproportioned to the capacity of the latter organs, that it cannot be circulated through them without causing great distension of their vessels, and also, perhaps, more or less effusion of serum into their substance. Hence it is that one of the very first symptoms of the disease is a sense of oppression, tightness, and uneasiness about the chest. But if the cold be not too intense, or applied for too long a time, this sense of oppression is soon relieved, often, as we see, in a few hours, by the occurrence of such a general effusion of serum into the subcutaneous cellular tissue, that the quantity effused is collectively so great, as to proportionally lessen the circulating mass of blood, and by doing so, to check the further progress of the disease, and enable the absorbents to remove such serous fluid as may happen to be effused into the substance of the lungs.

[After reviewing all that Dr. O'Beirne states, we see that the whole of his opinions rest upon the supposition that all the phenomena of dropsy are perfectly explainable upon the simple principle of *venous obstruction*, without necessarily being produced by inflammatory action. He says:]

It appears, then, that the general results of my inquiries on the subject of dropsy, are

First, that all the phenomena of the disease are but the products of venous obstruction; and that venous obstruction is caused either by diminished capacity of the lungs, or by an increase of the circulating mass of venous blood, or by both of these causes combined.

Secondly, that the disease is not of an inflammatory nature.

Thirdly, that the disease, with the exception of the early part of its course, is attended with more or less of general debility.

With these general results before me, let me now see what curative indications respecting hydrothorax and anasarca, can be deduced from them. The first of these results manifestly shows, that we have only to remove the venous obstruction, in order to remove the disease; and, that this must be done either by increasing the capacity of the lungs, or by diminishing the circulating mass of venous blood.

With respect to the first of these alternatives, the capacity of the lungs is, in dropsy, either natural or diminished. When natural, as in cases arising solely from either cold or plethora, it would be absurd even to imagine that it could be increased by any means; and when diminished, as in cases arising from hepatization and a variety of other causes, it cannot be increased without removing those causes, and consequently, without losing time which cannot be spared. It appears, therefore, that we must fall back upon and adopt the other alternative, that of diminishing the circulating mass of venous blood.

This being, then, the main curative indication, how is it to be carried into effect? Seeing that our object should be to relieve the obstructed state of the venous system as fully and quickly as possible, it is clear that we should employ venesection in preference to cupping, which acts less energetically and more slowly. But what quantity of blood should be taken? The second of the general results shows, that we have not to contend with an inflammatory disease, and consequently that the quantity should not be large, while the third of these results warns us against taking more than a moderate, or rather a small quantity, perhaps from eight to ten ounces. Should we repeat the bleeding? One of the immediate effects of the first bleeding should be that of relieving the absorbent system, and enabling it to restore the effused serum to the circulating mass of blood; and we see a proof of this being actually the case in the evident reduction which venesection causes, even in a few hours, in the swelling and œdema of the external parts. It may be safely inferred, therefore, that a short time is sufficient to restore to the venous system as much serum as compensates for, if it does not exceed, the quantity of blood which had previously been taken from the arm. We see the proof of this, also, in a fact, which I have often observed, that although the patient may, at first, bear the bleeding badly, he evidently rallies in a few hours. If necessary, therefore, we need not feel any dread of repeating the bleeding. How often, at what intervals, and in what quantity should it be repeated? It should be repeated when absorption and the secretion of urine become languid, but it will rarely be required to do so more than three or four times during the treatment: the intervals between each should be from two to three or four days, so as not to induce debility; and, for the same reason, the quantity of blood taken should be reduced in succession from eight or ten to six, and from six to four ounces, the last being the smallest that can be of any decided service. If the patient be young, but of weakly constitution, or if he be old and feeble, and supposing at the same time, that the disease has arrived at a considerable height, how are we to proceed? We should bleed him from a small orifice, and as much as possible in the recumbent posture; while the blood is flowing, we should give him gin and water in such quantities as may be necessary to support him; and, after the arm has been tied up, he should be ordered to have frequently during the day strong broths and such other kinds of animal food as may be found to agree with him. This mode of treatment will, no doubt, appear very strange, yet it is founded upon the soundest principles, and I have employed it, as will be seen, with the most decided success. The proportions in which I have been in the habit of directing gin and water to be used, are one part of the former to four or five parts of the latter, and the gin should be Dutch, not English. It is scarcely necessary to say, that I have selected this kind of spirituous liquor on account of its well-known diuretic properties. If a case be so far advanced that the cavity of the pleura is filled, or nearly so, with serous fluid, and if the patient be evidently dying from difficulty of breathing, yet not comatose or paralysed, are there any means of immediately relieving the difficulty of breathing, so as to enable us to give him a chance for his life? I cannot answer this question from experience, but it appears to me to be a case, particularly if the patient be young and has been previously healthy, in which we would be justified in instantly having recourse to paracentesis, which may be performed by a common lancet, if we should, at the time, not happen to have a better instrument. While the fluid is issuing from the chest, the patient should be given warm wine and water, and every restorative means should be employed; and, when a quantity sufficient to relieve his breathing has been drawn off, the wound should then be carefully closed with adhesive straps. This being done, and the restorative plan being continued, it is probable that absorption will go on, and enable us, in a few hours, to find a vein from which we should take blood in a quantity proportioned to

the patient's strength, from a small orifice, and in the recumbent posture. Having thus reduced the case to the state of an ordinary one, we may then treat it as such, until, perhaps, success shall have at length crowned our efforts to snatch a victim from the very mouth of the grave.

The next curative indication is obviously to support the patient by animal food, and the occasional use of gin and water, in order to enable him to bear not only these repeated bleedings, but also the debilitating effect of the disease. The only exception to this rule is, perhaps, the case of a young, strong person, in whom an attack of inflammation of the lungs has just terminated in serous effusion. In such cases it will be advisable to withhold both animal food and spirituous drinks for two or three days, but beyond this time, if not before, the state of the patient will not, even in this case, fail to evince the necessity of giving both.

The other curative indications are, first, to free the bowels, if confined, with compound powder of jalap, or, if their secretions and discharges be unhealthy, with calomel or blue pill; secondly, to assist the action of the kidneys by diuretics; thirdly, if the disease has arisen from hepatization of the lung or lungs, to administer blue pill in combination with diuretic powders, as this combination often acts upon the mouth as well as the kidneys, and, by doing so, causes absorption of the coagulable lymph deposited in the cellular tissue of the lungs; fourthly, should more or less of hepatization remain after the dropsy has been removed, to employ a mild mercurial course till all dulness has disappeared, and the natural respiration is again heard all over the chest; fifthly, when the disease has been completely removed, to advise generous diets, tonics, and change of air.

Such is the treatment which I recommend in hydrothorax, and also with a few obvious modifications in anasarca.

[Six cases are related as examples; and the mode of treatment here recommended is shown to be attended with very excellent results. In the first case,]

The patient's difficulty of breathing was such that he appeared to be at his last gasp; so much so indeed, that my first step was to order all the doors and windows of the ward to be opened, and spirit of ammonia to be held under his nose. His face, neck, wrists, and backs of his hands, and lower extremites were œdematous and greatly swollen. His lips were of a dark purple colour, and the action of the heart was rapid and irregular, and the pulse quick, soft, compressible, and intermitting. On succussion, the sound of fluid dashing within the chest was heard distinctly on the left side, but not on the right. The heart was displaced, and felt pulsating at the right side of the sternum.

[This patient was bled to twelve ounces, from which he experienced great relief; and next day he was bled cautiously again, to the amount of nine or ten ounces, at the same time taking strong broths, and occasionally a wine-glass full of gin and water, one part of gin to four of water. He recovered rapidly, and in twelve days was convalescent. The second case was still more remarkable. The patient had an attack of scarlatina, followed by such dangerous symptoms, that two of the most eminent practitioners gave the case up as hopeless. When Dr. O'Beirne first saw the patient,]

He was sitting up in bed, and doubled forwards, that being the only position, in which, as he said, he could breathe, or which he was able to assume for two days before. His face, neck, trunk, lower extremities, and hands, were greatly swollen and œdematous. His lips were of a dark purple colour, and the wings of his nose were in rapid motion. His pulse was full, soft, compressible, and intermitting, and the action of the heart tumultuous and

irregular. His breathing could scarcely be more difficult than it was, and, on succussion, the sound of a large quantity of fluid splashing within both cavities of the chest was distinctly audible, not only to me, but to several persons standing round his bed. The abdomen was much distended, and evidently contained a large quantity of fluid. On inquiry, also, I found that he had passed no urine on that day, and not more than two ounces of a high colour during the two previous days; in fact, there was total suppression of urine.

Such being the case which I was called upon to treat, I could not conceal from myself that it was a very formidable one, yet the youth and previous strength of the patient, and the circumstance of bleeding not having been employed, induced me to entertain some hope of success. Accordingly, my first step was to request a consultation with Professor ———. That gentleman, however, refused to attend on the plea of other business, requested that I might do what I pleased, and, on being informed that the only question asked by me referred to bleeding, he said that the boy might die in the very act of being bled. Being now left alone and unassisted, I sent for the family apothecary, the late Mr. Justin Kearney, than whom few men were more generally respected and esteemed, and informed the family, in his presence, that I entertained some hopes of recovering the boy by bleeding, but that I could not hold myself responsible for the consequences which might attend such a mode of treatment. The answer was, that the only remaining chance for life should be given. Without further loss of time, therefore, I proceeded to take blood from his arm, and finding that he did not become weak, allowed it to flow until ten ounces were taken. When about half this quantity had been drawn, he exclaimed, "Doctor, you have saved my life," and when his arm was tied up, he was able to lie down with comparatively great ease. The blood drawn was not either buffed or cupped. He was now ordered to have fifteen grains of compound powder of jalap every hour, until his bowels should be freely moved, and afterward to be given a moderate sized cup of chicken broth. At this time it was about eleven o'clock in the forenoon. At eight o'clock in the evening, I saw him again, and found that his bowels had been freely moved, and that he had passed more than a pint of high coloured, lateritious urine: his breathing was now greatly relieved; his pulse, though quick, was firmer, and no longer intermitted, the action of the heart was much less violent and more regular, and the swelling and œdema were every where greatly reduced. Finding that he did not complain of weakness, and that his pulse was so firm, I bled him again to six ounces, and ordered the compound powder of jalap to be continued. During the night he slept occasionally for about half an hour at a time, had some watery discharges from his bowels, and passed more urine and of a clearer colour. On the following morning I found him still more improved in every respect, and the blood last drawn free from buffing or cupping. As his strength, and the firmness of his pulse seemed rather increased than diminished, I bled him again to six ounces, and directed the same powder to be taken. In a few hours after he had several watery evacuations from his bowels, which seemed to distress him very much; and, for the first time, he complained of weakness, and asked for animal food, which he was allowed to have, and also some weak gin and water occasionally. The use of the compound powder of jalap was now discontinued, and he was directed to keep as quiet as possible. He slept soundly throughout nearly the whole of that night, and frequently passed considerable quantities of clear urine, and on the next day he was so well that I had merely to order his animal food and the gin and water to be continued. From this period all the symptoms began rapidly to retire, and on the tenth day from my first visit he was in perfect health, and enabled to go out and pursue his studies. The patient is now a solicitor practicing in the town of Monaghan, and his mother and family are now resident in Dublin, and can

vouch for the facts which I have stated. The case made some noise at the time, and may still be recollected by some of the older practitioners of this city.

[The other cases related are much of the same character, and the success of the treatment equally remarkable. This interesting paper is concluded by some observations on the views of venesection entertained by almost all writers on this subject. Bleeding has indeed been adopted in the treatment of dropsy in all ages, from Hippocrates to the present period, but so conditionally as frequently to destroy its efficacy :]

In fact, it was, and now is so very conditional, that many have been deterred from having recourse to it in any case. Again, even the modern works on the subject exhibit the clearest admissions of the great difficulty to be encountered in steering a safe course between, on the one hand, the obvious necessity for counteracting the tendency to debility, and on the other, the danger of exasperating a diathesis supposed to be inflammatory. But, now that the practitioner has before him views which avoid the extreme of both doctrines; now that he is supplied with a set of clear and simple rules to direct him in bleeding; now that he sees and must be convinced that he can, not only support, but stimulate the patient with the greatest advantage, and without any risk; it is to be hoped that he will, sooner or later, surrender his prejudices against the use of the lancet, and adopt a practice which will not, I venture to assert, fail to answer all his reasonable expectations.

Dublin Journal of Medical Science, Nov. 1842, *pp.* 219—267.

15.—ON THE USES OF SOME OF THE COMBINATIONS OF IODINE.

By Gerald Osbrey, A.M., M.D., Physician to St. Mary's Dispensary.

[In Article 13, of our 2nd Number, will be found an interesting communication respecting the Liquor Hydriodatis Arsenici et Hydrargyri, prepared by Mr. Donovan; and we are happy to be able to confirm the account there given of its efficacy by the additional experience of other members of the profession. Psoriasis and lepra, are probably as difficult to cure as any cutaneous affection, and any remedy which is praised by respectable practitioners, ought to be tried in every case where other treatment has failed. The *ioduret of sulphur*, though more particularly useful in porrigo, has been found exceedingly useful in many of these cases of psoriasis and lepra. It is used in the proportion of twenty grains to an ounce of axunge, which is to be applied daily. The strength may be gradually increased to forty grains to the ounce. Dr. Davidson, of Glasgow, has written a very interesting paper on its effects, which will be found condensed in our 5th No., Art. 53. In the paper before us, by Mr. Osbrey, the effects of some of the combinations of iodine are interesting. He begins with the Liquor Hydriodatis Arsenici et Hydrargyri, in a case of inveterate psoriasis. The patient, Susan Atkins, æt. 9, was affected with diffuse psoriasis which engaged almost her whole body, the scales on the extremities being continuous and remarkably thick. The following mixture was given,

℞ Aquæ distillat. ℥viij.; Liq. Hydriodat. Arsen. et Hydr. gtt. 80; Tinct. Zingiber. ℥ss.

Sumat unciam misturæ omni tertia hora.

Sickness of the stomach was at first produced, which soon subsided on desisting from the medicine for a few days. In ten days the eruption be-

gan rapidly to decline upon the trunk, and the thick scales to loosen upon the extremities. The separation of the scales on the head was accelerated by applying an ointment consisting of equal parts of tar and dilute citrine ointments. "In five weeks from the commencement of the use of these remedies she improved in health, but after that period her appetite declined; she fell away in flesh, and her countenance became pallid. The use of the mixture was of course discontinued. All traces of the eruption had then disappeared from the surface of the trunk, and only a few patches remained on the extremities." She then went into the country, took tonic medicines and soon recovered her health. The mixture was again commenced, and in three weeks no trace of the disease remained.

The iodide of potassium, Fowler's solution of arsenic, mercurial alteratives, sarsaparilla, guaiacum, and other medicines had been previously tried in vain. At the same time we think that every practitioner ought to exercise the greatest caution in every case where he is using the above mixture, as in the case here related we perceive that the patient's health was at first materially injured for a time. Three other cases of scaly eruptions were treated in the same way. One was affected with several thick scaly patches on the extremities for twelve months previously. These disappeared when she had used the medicine about three weeks. The separation of the scales was here also assisted by the tar and citrine ointments. Twenty-five drops of the mixture were given three times a day without producing sickness.

The next case was one of very obstinate *lichen urticatus*, which had been mistaken for itch. It was a child of six years old, and took six drops three times a day. The next case was one of *scrofulous ophthalmia*, in which disease this medicine may probably be found a very useful addition to our usual treatment. In this affection we may probably also find advantage in the use of the *syrup of proto-iodide of iron*, in the proportion of four grains of the proto-iodide to the ounce of syrup: of this about ten drops may be given three times a day to a child four years old.

But the *iodide of potassium* seems to be one of the most popular combinations of iodine, especially in secondary syphilis, chronic rheumatism, mercurial cachexia, scrofulous ophthalmia, diseases of the skin, &c. A very interesting account of the effects of iodine, and of iodide of potassium, is extracted by Mr. Osbrey from Dr. Christison's excellent work on Materia Medica: but this medicine is now so much used and so well understood by most practitioners, that we need not here recapitulate its effects and uses, but will only refer the reader to Dr. Christison's, and also to Dr. Pereira's, account in their respective works. Mr. Osbrey concludes his interesting paper by relating a variety of cases in which he employed this medicine.

Chronic abscess and disease of the heart and joints.—In this case there was a chronic abscess of considerable size, the hand's breadth above the right knee, the joint was much swollen and there was a large indolent ulcer on the leg on the same side: her pulse was quick, and she was considerably emaciated. The following mixture was ordered:

℞ Decoct. Guaiaci. ℥viij. Potass. Iodid. gr. xxiv.; Tinct. Cardam. co, ℥ss.; Tinct. Hyosciam. ℥i. M.

℥i. ter in die sumend.

"An ointment consisting of equal parts of mercurial and iodine ointments was applied over the abscess. The ulcer on the leg was dressed with lint, moistened with black wash, and covered with oiled silk." In three weeks the abscess had disappeared, and in two months her health was

restored. Six weeks after this cure, the leg commenced ulcerating again, and the knee of the same side became slightly swollen. By means of the same treatment, however, she completely recovered, and has remained so since that time.

The next case was one of disease of the hip joint, in a child, æt. 6, in which the iodide of potassium proved highly serviceable. The symptoms present were much the same as we always find, and the following was the mixture ordered:

℞ Decoct. Cinchon. ℥vss.; Potas. Iodidi, ℥ss.; Tinct. Gent. co, ℥ss.; Tinct. Hyosciam. ℥i. Misce.

℥ij. ter in die sumend.

A blister was also applied and kept open with savine ointment. The mixture was continued for about three weeks, when the child was much better, although the affected leg was ultimately shorter than the other, and true anchylosis took place.

Mr. Osbrey proceeds to make some remarks on the use of iodide of potassium in syphilis, but as this is a subject that has been already so well discussed, and is so generally known to the profession, we forbear lengthening this article by further allusion to it except in the words of Mr. Key: "This medicine (mercury and iodine) have both their respective benefits, and it may be said that iodine fulfils that in which mercury is deficient. In the normal forms of syphilis, the latter is rarely found to disappoint, and in the abnormal forms of primary sore, it rarely fails to do harm, while iodine exerts comparatively little influence on the normal chancre, chiefly confining its good services to the sores that are set astray by some peculiarity of the constitution."*

In rheumatism, likewise, this remedy has been found exceedingly useful, as well as in lumbago and gout; and Dr. Stokes recommends it as a diuretic for pleuritic effusions and dropsies: "he advises the same rule to be observed with regard to it as with respect to other diuretics, which is to wait *until all inflammatory symptoms have subsided*. Iodine appears from what he says to be chiefly of use at the precise point where mercury begins to fail, which is when the disease has changed from its acute to its chronic form."]

Dublin Journal of Medical Science, July, 1842, *p.* 406—433.

16.—ON THE USE OF OX GALL.

By Charles Clay, M.D., Lecturer on Medical Jurisprudence, Manchester.

[Our readers will probably recollect our former allusion to this substance, as being strongly recommended in certain cases of jaundice and dyspepsia. Dr. Clay has pursued the investigation of its use, and has published some interesting papers on the subject in the Medical Time Before relating his case he gives us something respecting its history.—It seems to be by no means a new remedy, for Boerhaave relates, "that he has cured pale ricketty children by pills made of the galls of the eel and the pike; that the medicine operated powerfully by urine: and that by its use the belly, being swelled, subsided surprisingly."

Lewis, Cartheuser, Baglivi, and others, have likewise alluded to it, and found, among other qualities, that it had the property of preserving milk from coagulating, or turning sour, or when coagulated immediately dissolves it again.

* Brit. and For. Med. Review, No. 24, p. 340.

Dr. Clay first tested its powers to relieve the pain in cancer, from noticing the fact that Dr. Peacock, of Darlington, observed that when the system was impregnated with bile in cancerous affections, the pain was always remarkably relieved. Whether this be really the case or not, we cannot state from our own experience, but only give the fact on the authority of Dr. Peacock, whom we know to be a very respectable physician. The following case will illustrate the treatment adopted by Dr. Clay.]

Anne H——ly, æt. 56, had a cancerous ulcer that had destroyed the greater portion of the nostrils, accompanied with the most lancinating pains, over which neither local applications nor internal medicines (except for a very brief space of time) had any control; the case had been long under treatment without improvement, and as a forlorn hope, I ordered the following:—

℞ Fel. Bov. Inspiss., ʒij.; Ol. Carui., m. x.; Magnes. Carbonatis q. s. ut fiat massa. M.

Div. in pilulas xxxvi., capiat ij. ter in die.

In order that the effect might not be combined with any other object, no local application beyond clean washing was recommended. After taking the pills for only one day great relief was experienced: on the fourth day no trace of pain remained; for three weeks the sore improved in appearance, without pain; slight pains again occurred. The dose was ordered to be repeated four times in the day. The pain again subsided, and all progressed well for two weeks longer, when the pains again occurred. Pills ordered, two repeated six times in twenty-four hours, after which the pains slightly abated, but soon recurred again. Eight weeks after the commencement the sore began to assume its old character, and the pain became violent; she soon after left the dispensary, and I lost sight of the ultimate result. Before giving the gall in this case, the *motions were particularly white, and the bowels very much constipated, with acid rising from the stomach*, all of which vanished whilst under the influence of this medicine.

[If, as Dr. Clay observes, the inspissated gall is but a palliative in cases where schirrous or cancerous diseases have assumed a malignant form, yet it may prove a valuable acquisition to our means of giving relief in some very distressing cases. Dr. Clay relates the following cases to show the value of this remedy in *dyspepsia*.]

I was myself laboring under dyspepsia, almost every kind of food became acid soon after being taken; I had violent headaches, constant pain in the epigastric region, and bowels very much constipated, many times three or four days without a motion; occasional relief, but of a very temporary nature, was obtained by the piluæ hydrargyri. I have been subject to these symptoms, more or less, for seven or eight years, but they have been often very severe during the last three or four years. Purgative medicines always produced great irritation and uneasiness for some time after their exhibition. Under these circumstances I took two four-grain pills of the inspissated ox-gall, not having had any motion for nearly four days; the pills were taken at four o'clock in the afternoon, and at seven, without even the slightest sensation of pain, or the common feelings arising from having taken purgatives, I had a free and copious motion, the excrementitious mass being in a pulpy form, and perfectly free from the indurated character I had been so long accustomed to. I repeated the dose next day with similar results. I experienced not even the slightest feeling of uneasiness; indeed, had I not known the fact, I should not have supposed that I had taken medicine of

any kind. The acidity immediately left my stomach, and when under its influence the pains in my head and stomach were removed, and my bowels are now quite regular. From taking occasional doses, of course its effects are not sufficiently tested; but I have experienced more relief, with less unpleasantness, than from any other of the many means I have ever resorted to; in fact, its value in dyspeptic stomachs is incalculable.

Mrs. W—g, the wife of a painter, thirty-eight years of age, and mother of five children, had been subject to a very constipated habit from a very early period of her life, not unfrequently the space between evacuations extending twelve or fourteen days, and very commonly to ten days; whether pregnant or not, the same tendency to constipation existed: she had sought advice from medical men of the highest repute and experience, but at most only received temporary relief; her bowels almost immediately relapsed into their accustomed state, in spite of the best efforts to the contrary. In the endeavour to procure motions, she had frequently taken from ten to twelve ounces of the ol. ricini, and twenty or thirty drastic purgative pills before an operation could be procured, and then with great pain in the bowels, vomiting, &c., only parting with small balls of indurated fæces. Before giving the inspissated gall, I thought it advisable to test the obstinacy of the bowels by other means, and therefore ordered the following mixture:—

℞ Alb. Ovi. f. ℥j.; Olei Ricini f. ℥ij.; Olei Menthæ, pip.; Olei Crotoni, aa. m. iij; Aquæ Puræ f. ℥vj. M.

Sumat æger cochlearia duo magna quaque tertia hora.

After persevering two days with this, only one small motion was passed, and that with violent vomiting, and almost intolerable pain, the fæces having the character of hard balls. Waiting for two or three days for the excitement to subside, I then ordered the inspissated gall, according to the formula in the first case, giving two four-grain pills three times a day, or twenty-four grains in the day; in little more than six hours from the first dose, and before taking the third, she had a very copious motion, without the slightest degree of sickness or pain, except for a few moments, caused by the hardened fæces passing the sphincter ani; on the second day a second, and a third motion, as easy as the first, were passed, when I extended the intervals between the doses of the pills to six hours, viz., sixteen grains per diem: from this time her bowels were perfectly regular, and without the slightest uneasiness. Three weeks from the commencement of taking the inspissated gall, she omitted the pills entirely for three days, when the bowels were disposed to assume their former state; resuming the pills once in the day she became quite regular. It is now eight months since the first trial with the gall, and having left off the pills entirely for the last two months, she is quite regular in her bowels. The effects of the inspissated gall in this case were decided, and highly satisfactory. A more obstinate case, showing a more favourable result, could scarcely be adduced.

If I take the whole range of cases hitherto introduced as illustrative in this essay, *deficiency in quality and quantity of bilious secretion is the prominent and prevailing accompaniment.* If I were asked how the inspissated gall acts so as to procure a more soluble state of the fæcal mass, I should say distinctly, neither as a laxative, purgative, nor drastic, all such producing, to a greater or less extent, a stimulus to the intestinal coats, exciting them to propel their contents and to excite an extra secretion from the exhalants (the latter action, however, in my mind, is rather questionable); such is the generally allowed operation of the various degrees of cathartic medicines, and the common consequence arising from taking such is nausea, sickness, griping pains, &c., more or less, according to the character and dose of the medicine employed. Inspissated gall, on the contrary, produ-

ces not the slightest pain or sickness, and yet a motion can with equal (or greater certainty) be relied upon, and that in a form most easy and natural for propulsion. It is evident its action is not as a cathartic, but as a direct solvent to the accumulated hardened fæcal mass, *the consequence of deficiency of quality or quantity of bile in the alimentary canal;* as such, its effects may be produced without pain or uneasiness, which would not be the case if its action was on the principle of cathartics. I shall, in my next communication, show the effects of inspissated gall in diseased livers, dropsies, and in that numerous class of diseases arising from acidity in the first passages of children, with some experiments on the bile and fæcal matter.

[Dr. Clay has also found that the inspissated gall has a remarkable tendency to counteract the constipating effects of opium, which drug not only checks the secretion of bile, but almost all the other secretions of the body. The administration of gall, therefore, if this fact be further corroborated, will be a valuable addition to our list of remedies when we are wishful to give opium but dread its constipating effects. In the case alluded to by Dr. Clay, the patient was taking large doses of the Pil. Scillæ Comp. c. Opio at bed-time, for a constantly irritating dry asthmatic cough: eight grains of the inspissated gall were also given every night, which completely counteracted those constipating effects of the opium which had previously existed. Dr. Clay further states that,]

In all cases of marasmus, whether of children or in the atrophy of adults, I have in ox-gall a valuable remedy. In acidity of the stomach, &c., of children, it is of most decided, effectual, and immediate relief. The curdled vomitings, green motions, abdominal gripings, and restlessness immediately disappear, and a better state of general health is substituted; in all such cases there was a decided action on the kidneys, increasing the secretion. On looking at its effects upon children as just stated, particularly whilst at the breast, living almost entirely on milk, the result is not different to what we might suppose when considering the experiments of Baglivi, Lewis, &c. "*That it prevents milk from turning sour, and dissolves it when in a state of coagulation;*" *an antacid preparation is indicated, which is one of the peculiar properties of this remedy.* To show its direct effect upon hardened fæces, a child of sixteen months old passed a very hard motion with very great difficulty, not having had one for three days. I poured a solution of ox-gall over it in a vessel, immediately its chalky appearance was changed to a more healthy bilious colour, and reduced to a pulpy mass in half an hour; from this fact, I will suppose a case (one which has frequently occurred in my practice), an adult with hardened fæces in the rectum, almost, if not quite impossible, to pass without assistance; under such circumstances, what could afford a better prospect of relief than two or three ounces of recent gall, diluted with as much water, used as an injection. It is needless to observe I would pledge myself as to the result, viz., an immediate softening of the mass facilitating its propulsion.

So far as these experiments have progressed, the use of ox-gall in some diseases is of the most satisfactory character, presenting us with an excellent and peculiarly effective corrective for the many and various derangements of the alimentary canal, unlike many of our best medicines, inasmuch as in whatever cases it is given, if no benefit results, no harm is ever experienced from it. Its action on the system is not as a purgative, but as a mere solvent of the *material* contained within the intestinal canal, producing no excitement to propel, but by liquifying the mass, facilitating its excretion. It is also a tonic—and in children to a moderate extent, a diuretic—but less so in an adult. It appears to have a peculiar and specific action on all that variety of diseases connected with derangements of the digestive

organs, and, from the proofs I have advanced, I believe it worthy of extensive trial. The preparation I have been in the habit of giving, is simply the recent gall of the ox slowly evaporated to the consistence of an extract, and afterwards made into pills, as in the formulæ already given; but if sufficiently firm, I prefer the simple extract made into pills without any addition; and if the gall be *recent*, it has very little smell, but an intensely bitter taste. The gall-bladder of a moderate sized ox will afford as much extract as will make one hundred four grain pills, and is an article both cheap and easy to procure. Trusting it may be further tested by others, I leave it to the profession, confidently recommending it to their notice.

Medico-Chirurgical Review, July, 1848, p. 278.

17.—ON COD LIVER OIL.

By Drs. Ascherson and Klencke.

[In the 25th Number of the British and Foreign Medical Review, is a notice of Dr. Bennett's work on this subject, in which many of the views of Drs. Ascherson and Klencke may probably be embodied. In the opinion of Dr. Forbes, however, Dr. Klencke's work "forms a completer and abler exposition than that of Dr. Bennett, and presents evidence more circumstantial and decisive of the success of the cod-liver oil treatment." In short, the *antistrumous* and other virtues of this oil are now established.]

Dr. Ascherson conceives that oil-globules are essential to the formation of the elementary cells of animal tissue, and that these globules are constituted from fluid fat and albumen. He observed that on fat in a fluid state and albumen being brought into contact, a small quantity of the latter instantly formed a case or pellicle round a globule of the former, and that from the globules thus produced, as we have already stated, the elementary cells of all tissues are formed. Now, according to Dr. Ascherson, while on the one hand normal bile furnishes a due supply of oil, chyme supplies a due proportion of albumen, and thus, by the union of these in the manner already described, the formative rudiments of animal tissue are produced.

Dr. Klencke, while admitting what Dr. Ascherson alleges as to the mutual effects of fluid fat and albumen, denies that the phenomenon is to be regarded as having any true resemblance to organic cellular formation, since the organic cell is first developed as a nucleus, and the periphery is formed posteriorly to the centre. He also observes that the oil and albumen of the globules could not enter the lacteals without being previously dissociated, if not decomposed; and he further notices that chyme, *prior* to its admixture with bile, contains fat. Throughout the whole of his work, Dr. Klencke assumes that fat used as food and reduced to albumen, may be reconverted to fat, in the mesenteric glands, in the blood, in the cells of the parenchyma of the liver, and in the gall-bladder; and that this reconversion is favoured by a state of quiescence, as, for example, that produced by sedentary habits.

The author seems to think that cod-liver oil owes its power of improving chylification to its resemblance to bile, to which he conceives the oil to be a succedaneum. Bile and the cod-liver oil resemble each other in so far as both contain fat, resin, and similar saline constituents. He does not think that the therapeutical action of the oil is due to its containing iodine, or bromine; or resin; but that in its oleaginous nature, and its general character as an animal oil, consist its medicinal efficacy. Elsewhere it is asserted that an aliment of the fat of pork or bacon produces all the beneficial con-

sequences of the cod-liver oil. Its physiological properties are more minutely defined as consisting in stimulating the lymphatic and capillary systems, and the functions of secretion and excretion, and in improving nutrition; the deterioration of which is one of the omniform "bad effects of scrophulosis." It also replenishes the blood with an energetic and rich plasma, and, amid the activity of the vital processes to which it gives rise, promotes the absorption of all scrophulous depositions. According to Dr. Klencke, the use of the oil serves to develope in the chyle those non-nucleated corpuscles, in the blood those colourless globules, and in the lymph the molecules peculiar to it, which furnish the formative constituents of the tissues; and the rarity and plenty, respectively, of which corpuscles in the three fluids now named are a sign of normal or of cachectic assimilation. In short, the principal therapeutical excellence of the oil seems to consist in its power of acting as a substitute for the bile, when that secretion is either vitiated in quality or deficient in quantity.

That cod-liver oil possesses the property now ascribed to it Dr. Klencke infers from a variety of experiments on animals, principally cats and dogs. He found that after ligature of the ductus communis, the chyle, in cases in which no cod-liver oil was given, wanted the non-nucleated corpuscles, and showed, on being allowed to rest, no fatty stratum: but exhibited both of these when the oil had been administered prior to the death and dissection of the animal.

There is a disease to which cats are subject closely resembling scrofula in man. The animal is scabby, emaciated; its belly is tumid; it has a ravenous appetite; its eyes are tearful, the lids inflamed, and the nose exhibits sores. In this state even the endermic application of the oil appears to operate beneficially. A cat in the condition described, was plunged, up to the neck, twice in the day, into "ordinary train-oil," and then kept wrapped in a flannel soaked in the same. The effect seemed to be equal to that of taking the oil internally.

The author also recommends inhalation of "an atmosphere impregnated with the oil gas" in cases of tuberculosis. The case of a lady labouring under "full-formed [ausgebildeter] tuberculosis" and hectic fever, is recorded, in which a cure was effected in four months by this method of treatment; although the oil seems to have been employed in other forms besides that of inhalation. The author conceives that, used in the atmospheric form, the oil acts partly by endosmosis; partly by "its stimulating effects on the capillary system and peripheric nerves of the lungs."

From the fact that the resin, which abounds in the darker coloured sorts of the oil, appeared in the stools of one of the cats to which he administered it, Dr. Klencke infers that it is not to the resin that the efficacy of the oil is due; and he presumes from analogy that the resin of the bile, in like manner, is purely excrementitious, and exerts no positive influence in chylification.

In one respect the cod-liver oil differs from bile, namely, in its reaction being acid, while that of bile is alkaline. Yet we find that is highly useful, and that too. probably, just on account of the reaction referred to, in cases of persons of biliary diathesis, the secretion of whose livers is very alkalescent and very inspissated.

Towards the end of his work Dr. Klencke gives similar cautions and directions as to his cases proper for the exhibition of the oil, which Dr. Bennett has done in his treatise.

We are surprised by a statement which occurs at an early pai of Dr. Klencke's work. He says that between the action of the three principal sorts of oil, there is as great a difference as between that of the various preparations of mercury. We shall therefore briefly state the circumstances proper for the exhibition of these three sorts respectively; premising that, so far as re-

gards colour, they are distinguishable into a tar-like black species, a fluid red, and a fluid brown and golden yellow species.

In atrophic states, and states of cachectic assimilation, in which the indication is to improve chylification, the oleum subflavum, or the clearer and purer sort, is the suitable one. It is adapted for children and adults, with marked gastric irritability, but the action of whose bowels is languid. But if, after cachectic symptoms, there manifests itself a tendency to morbid formations or depositions, and it seems desirable to correct the constitution of the fluids by a stimulant action on the nervous, vascular, and secretory systems, the dark oil, or that which abounds with resin, and even the fusco-empyreumatic species, is indicated. The author states that he has cured gouty and rheumatic cases more speedily by these last sorts than by the subflavous variety. These diseases, in adults, require the red oil, which species is also peculiarly adapted for cases of nervous irritation accompanied by dyscrasia, as well as "inflammatory affections which seem to result from a vitiated state of the plasma."

Dr. Klencke and his "colleagues" appear to have treated successfully, by cod-liver oil, five cases of tuberculosis; two cases of acute hydrocephalus in children; three rachitic cases; two cases of caries scrophulosa; one case of chronic gout, with a cachectic constitution; four cases of spinal irritation, accompanied now with paralysis, now with pain in the backbone and pericardium; one case of epilepsy; nineteen cases of chronic skin-disease; one case of the "purulent diathesis, without marked gastritic symptoms; eight cases of inflammatory affection of the glands in all stages and varieties; two cases of chlorosis; one case of fluor albus; one case of gastro-malacia.

The author directs, as the smallest dose to begin with, three table-spoonfuls of the oil daily; which quantity may be increased daily to twenty, or until the patient comes to live almost entirely on the oil.

[Dr. Forbes however in conclusion states it as his opinion, that "the cod-liver oil will not in practice realize all the expectations which are entertained respecting it—that it will not prove radically curative in a majority of cases of chronic gout and rheumatism; nor effect any lasting amendment in cases of tuberculous lungs, whether the tubercles be solid or soft: but "still," he adds, "the strong and recurring evidence of the beneficial effects of the *oleum jecoris aselli* forbids us to doubt that it is an agent of considerable efficacy in some cases," and he trusts that his present notice of it "will induce members of the profession to embrace suitable opportunities of testing its merits and of reporting the results of their observations."]

British and Foreign Medical Review, Oct. 1842. *p.* 442.

[*The Skate-liver Oil* is said by some to be preferable as a therapeutic agent to cod-liver oil, "The disagreeable odour and taste of cod-liver oil has, it would appear, led to the substitution of the oil obtained from the liver of the skate (*Raia clavata* and *R. batis*) in place of it. In Holland and Belgium this oil is preferred to that of the cod, as being both less disagreeable to the taste internally, and also fully more efficacious in its therapeutic effects. MM. Girardin and Preisser were therefore induced carefully to analyze it, and found it to contain a per centage more of the ioduret of potassium than the cod-liver oil, whilst, in point of purity and other properties it appeared to be superior to it. They therefore recommend it as a valuable substitute for the more nauseous article at present in use."]

Edinburgh Medical and Surgical Journal, Oct. 1842, *p.* 504.

Dr. Ure has suggested the adoption of cod-livers as a diet for patients who are recommended to take the oil. In order to prevent the loss of oil during the process of cooking, he recommends the livers to be immersed entire in

boiling water, to which a sufficient quantity of salt has been added, to raise the boiling point to about 220° Fahr. The sudden application of this high temperature coagulates the albumen of the liver, and prevents the escape of the oil. When the liver is cut, the oil exudes, and mashed potatoe may be used as a vehicle. Dr. Ure informs us, that having been advised to take cod-liver oil, he found the nauseous flavour very objectionable, until he contrived the above plan, which he finds to answer extremely well.

Pharmaceutical Journal, Nov. 1, 1842, *p.* 361.

[Dr. Roesch affirms that scrofulous affections are produced by an excess of acid matters in the fluid of the body; and that cod-liver oil is therefore one of the most suitable remedies, seeing that it possesses the rare properties of being at once a stimulant, a roborant, an antacid, and nutrient.—*Med.-Chir. Rev., July* 1, 1842, *p.* 259.]

18.—OBSERVATIONS ON CREOSOTE.

By Dr. Rose Cormack, Edinburgh.

Nature of its Action.—Dr. C. has satisfied himself, by experiments on the lower animals, that creosote, in large doses, is a narcotico-acrid poison; and that it resembles prussic acid in its sudden depressing action on the heart, as well as in the temporary nature of its toxicological operation. In medicinal doses, it is almost immediately sedative and calming; but these effects are of short duration; *so that it is a drug which requires to be given in often-repeated small doses.*

Internal Administration.—Use in nausea and vomiting.—Creosote is one of the best medicines which we possess for stopping vomiting. In the vomiting of pregnancy, an affection so distressing to the patient, it seldom fails. If the sickness come on regularly after rising in the morning, Dr. C. prescribes two or three drops to be taken five or ten minutes before getting out of bed. This generally proves effectual: but if it does not, the patient ought to be directed to repeat the dose in two hours. In more troublesome cases, when the sickness occurs at intervals during the day, one or two drops should be given every two, three or four hours.

[In a case communicated by Professor Simpson, the creosote failed to relieve the distressing sickness, while doses of *acetate of lead* proved successful. In the sickness and vomiting following a drinking debauch, creosote is sometimes very useful. In such a case a single dose of four drops was found to relieve speedily. In sea sickness it will often be found efficacious; but "it is worthy of notice as a general remark that creosote, though excellent in allaying vomiting, often excites it when it does not exist."]

In *vomiting connected with hysteria*, creosote proves a very valuable remedy, and so far as Dr. C.'s experience goes, he is inclined to think, that Dr. Elliotson and others, who have recommended it very strongly in this class of cases, have not done so without sufficient cause. In at least ten cases of this kind, Dr. C. has tried it in doses varying from two to eight drops, and in all, excepting one, it proved an admirable medicine, not only relieving the vomiting, but also apparently, in most instances, calming the nervous excitability. In the case in which it apparently did no good, the dose could not be increased beyond six drops thrice a day, on account of the vertigo which it occasioned. The patient was ultimately much benefitted by sponging with cold water, and taking four grains of the saccharine carbonate of iron three times a day.

Case.—Patient—A young woman, exhibiting many of the anomalous symptoms so common in hysteria. When first visited, she was emaciated, weak

nervous to a distressing degree: stated that she vomited her food, and had done so for ten days, but had had sickness in the mornings for a much longer period. She had been trying various tonics. None of them did her any good, and they were generally rejected soon after they were swallowed. Dr. C. ordered her to breakfast in bed, and that sparingly, on the morning following his visit, and half an hour before doing so, to take a dose of a mixture, containing three drops of creosote, in acetic acid. After her meal, she had only slight nausea. She sponged her chest with vinegar and water, and before a light dinner, repeated the dose, but had a good deal of vomiting, though not so much as usual. As the creosote had produced no giddiness nor uneasiness of any kind, the quantity was increased on the following day to five drops before breakfast and dinner. For a week after this, she had neither nausea nor vomiting; but both having then slightly returned, for five days the dose was increased daily a drop, till at last, she was taking ten drops twice a day. From this time the vomiting did not return for three weeks, during which time she persevered in the medicine, and under its use, daily gained strength and flesh; the catamenia, which had formerly been scanty, became much more abundant. As she now complained of headache, and attributed it to the creosote, it was discontinued, and the saccharine carbonate of iron substituted, in doses of four, and afterwards five grains, three times a day, in pills made up with the extract of gentian. She continues to use the iron, and has latterly, with great benefit taken the shower bath. Once or twice the vomiting has returned, and been promptly relieved by the creosote. In this case, the creosote did more, probably, than relieve the vomiting. It is, however, proper to state, that along with the creosote, from the commencement of the treatment, great attention was paid to the bowels, which had formerly been neglected. She took the compound aloes and assafœtida pill so as to have at least one stool daily, whereas formerly, she rested satisfied with two, or even with one a week; this of itself must have greatly contributed to the cure.

In all of the hysteric cases of vomiting, there existed constipation, which was actively dealt with; but as in the case now detailed, the vomiting was relieved by the creosote, before the purgative treatment could have developed its effects. From a number of cases, creosote appears to be valuable in hysteria, not only for the vomiting, but also in assisting to control many of the fantastic and distressing symptoms of this Protean malady.

Creosote as an external application.—In *toothache*, creosote generally gives immediate relief from pain, when properly applied to the exposed nerve, in the cavity of a carious tooth. Dr. C. has in his own person made repeated trials of it, and is quite convinced, that though it gave respite from pain, it hastened the destruction of the teeth. This observation has been repeatedly made by others.

In *arresting hæmorrhage* from small vessels, or the oozing of blood from abraded or cut surfaces, bleeding ulcers, and leech bites, a creosote ointment or lotion is often very effective. It acts by coagulating albumen, and thus forming a crust. Pure creosote may be tried when the bleeding is more profuse. In the hospital at Cadiz, Dr. C. saw it used with complete success, in the oozing of blood from the wound of a compound fracture. He never had the opportunity of seeing its power over pretty active hæmorrhage, in the human subject, except in this case.

From experiments made on dogs and rabbits he is, however, quite satisfied that creosote possesses, in a high degree, the power of arresting hæmorrhage from the capillaries; but in wounds, which it is desirable should unite by the first intention, its use should probably be abandoned as soon as the bleeding is fairly subdued, as, by uniting with the lymph effused, it forms a substance, which would act as injuriously to the progress of the reparative process, as any other foreign body.

In *chronic venereal ulcers*, Dr. C. has repeatedly used creosote with advantage. It answers very well to apply it pure *once*, when there is great deficiency of action, and subsequently to employ an ointment of from four drops to thirty, to the ounce of lard. The lotion is also a very excellent form of application. In *phagedenic ulcers*, *ulcerated chilblains*, and sores yielding a sanious discharge, Dr. C. has often used creosote with great benefit.

In the application of creosote to ulcers and other solutions of continuity, there are several facts which the practitioner should bear in mind. *It is important to remember that water only dissolves one eightieth part.* If an excess of creosote be present, it will float on the surface in small globules, and can therefore very easily be removed; but if this is not done, when the lint is dipped in the lotion, these globules will adhere, and in this way, a very different wash from what was intended, is placed upon the sore. In very few cases, where the raw surface is extensive, pure creosote ought to be applied to the whole of it, as severe irritation is generally the result.

Lond. and Edin. Journal of Medical Science, Oct. 1842, *p.* 945.

19.—MODE OF GIVING TURPENTINE FOR TAPE WORM.

By Dr. Bellingham, Physician to St. Vincent's Hospital, Dublin, Professor of Botany, &c

[Dr. Bellingham does not think it necessary to administer this remedy in the large doses which were formerly given. He states that it will be equally effectual if the system be kept for some time under its influence by giving it in moderate doses, two or three times in the twenty-four hours, occasionally exhibiting a larger dose; and if no cathartic effect follows, he combines it or follows it up with castor oil.]

The mode which I have found most effectual of exhibiting this medicine against the tape-worm, is as follows:—I commence (supposing the individual to be an adult, and not to have taken oil of turpentine previously) with a small dose, as from half a drachm to a drachm, repeated three times a day; by this means I ascertain whether a large dose may be given with safety, as if half a drachm or a drachm produces strangury, I never venture upon a large dose. On the third or fourth day I give an ounce either with or without the same quantity of castor oil, and repeat it again the following day. This will probably bring away a considerable portion of the tape-worm. I then again diminish the dose to half a drachm or a drachm, repeated as before for four or five days after which the larger dose is exhibited once or twice, according to circumstances. The patient is then allowed to rest for a few days, when I recommence with the original dose of half a drachm or a drachm, which is to be persevered in for a week or a fortnight. It is in general difficult to induce the patient to continue the medicine for such a length of time. If we can, however, this plan of exhibiting oil of turpentine is certain to remove the complaint.

Dublin Medical Press. Sept. 28, 1842, *p.* 195.

20.—LIQUOR TARAXACI.

A very elegant preparation has been introduced under the above title, and which, from the strong taste it possesses of the recent root, has been much used by medical men who have confidence in the remedial power of dandelion. The following formula has been communicated to us:—

Dandelion roots, perfectly clean, *dried*, and sliced, 18 ounces.

Infuse for 24 hours in a sufficient quantity of cold distilled water to cover them.

Press and set aside, that the feculæ may subside; decant and heat the clear liquor to 180° F., so as to coagulate the albumen; filter the liquid while hot, and evaporate in a drying room, or by means of a current of warm air (a water or steam bath will not succeed so well), until the product shall weigh 14 ounces. To this must be added 4 ounces of rectified spirit. Should the roots not have been perfectly cleansed, the product must be digested with pure animal charcoal. If properly prepared, *Liquor Taraxaci* resembles in colour pale sherry, and possesses the acrid taste of the fresh root in an eminent degree. The dose is from one to three fluid drachms.

Medical Gazette, Nov. 4, 1842, *p.* 191.

21.—THE POTATOE IN SEA SCURVY.

By W. Dalton, Esq., M.R.C.S., Cheltenham.

[Mr. Dalton gives his experience of the nature of this article in sea scurvy as follows:—]

On leaving England, in January, 1823, I found on inquiry that the ship was not, as usual, supplied with lime-juice, but bountifully with potatoes; and great care was taken, as the stock decreased, to keep some for what the sailors aptly termed "scurvy-grass," which consisted of potatoes, peeled and sliced like cucumbers, with the addition of a little vinegar, to make them more palatable. The crew were supplied with a quantity of scurvy-grass every morning, before breakfast, averaging from two to three potatoes each man: this was partaken of eagerly by the old and experienced seamen, and shortly by the others from their recommendation and example.

In order to show how highly raw potatoes were esteemed as an antiscorbutic, I may mention a fact of which I was an eye-witness. On our arrival at Valdivia, on the coast of Chili, one of our men was observed by a female to take a potatoe from a heap, and very unceremoniously and eagerly eat it. She called his attention to a quantity of apples, and tendered some to him; but although he accepted the apples, he assured her that he had not made a mistake. We remained at sea, on various cruises, during periods of from six to nine months each. On one occasion we were exposed to all the consequences arising from damp and moisture for six months, having been cruising near the equator in the wet season, and I believe that during that period we never passed a day without rain; at the same time, we were living on salt provisions, with a very scanty allowance of "scurvy-grass." We returned to England after an absence of two years and ten months, never having had scurvy among the ship's company,* and had the satisfaction of seeing every individual that embarked with us return to his native land.

A second voyage, of nearly equal duration, was attended with similar results.

As a substitute for potatoes, pumpkins, plantains, the recent juice of limes, &c., &c., were given; but of all others the raw potatoe is decidedly the best antiscorbutic. I may add, that in one instance we presented a peck of potatoes to a ship's crew consisting of about forty persons, many of them having incipient scurvy. They were relieved, and enabled to prolong their cruise at sea.

London Lancet, Sept. 3, 1842, *p.* 789.

* Excepting slightly in one instance following severe injury to the feet, produced by a fall from aloft; and on that occasion we had been nine months at sea, on our arrival at New Zealand in 1825.

[This account of Mr. Dalton's is corroborated by Mr. Berncastle, (see Lancet, Sept. 24, 1842, p. 892) who thinks, however, that the potatoes are equally efficacious when boiled, which would certainly be a more palatable mode of taking them.]

2.—ACTION OF CARBONATE OF POTASH ON GUM RESINS.

By Mr. Hulse.

Some years since, my attention was drawn to the action of carbonate of potash on myrrh, which induced me to try its effect in reducing other gum resins, and the result was perfectly satisfactory. The intrinsic value and utility of this alkaline carbonate as an agent, when used according to the formulæ hereafter referred to, will become manifest to the practitioner and the pharmaceutist, especially in the preparation of the compound mixture of iron, the compound pills of iron, the compound galbanum pills, and, indeed, every other mixture and pill which contains a gummo-resinous ingredient in its composition.

With regard to myrrh, if one part of carbonate of potash be added to two parts of myrrh in the lump, and rubbed together, the alkali produces complete saponification: and if to this be added medicated or distilled water, we obtain an elegant emulsion of myrrh, and nearly the whole of the gum resin is retained in suspension, which would not be the case without the aid of the carbonate of potash, then with the usual proportion of sugar, using the raw instead of refined, adding first the rose water, then the sulphate of iron, powdered, and, lastly, the spirit of nutmeg, it will not be an unsightly mixture, and the precipitate will be very trifling.

Again, in the compound pill of iron, if carbonate of potash is used instead of carbonate of soda, and raw or Muscovado sugar in lieu of the refined, a pill mass can be compounded with less trouble than by following the college formulæ, and which will retain a convenient pilular consistency for any reasonable period.

℞ Myrrh in lump, two drachms, reduce it to powder in an iron mortar with Carbonate of Potash, one drachm, then add Sulphate of Iron, powdered, one drachm; Raw Sugar, one drachm.

Mix, and beat all into a mass, without any liquid. Attention to this last remark is necessary, for the addition of any liquid renders the mass too soft, the raw sugar being sufficient to bring it to a proper consistence.

The solubility of this pill is such, that after having been made six months, I put two pills, of five grains each, into a glass of water, about the temperature of the stomach, and they were completely disintegrated in two hours. If water will thus serve to dissolve these iron bullets, as they are sometimes termed, we may expect the fluid of the stomach will have a much quicker action upon them.

I will now refer to that hitherto troublesome preparation, the compound galbanum pill. This pill, which to most gentlemen has ever been an annoyance, can be as easily and as readily prepared as the preceding one, and becomes as tractable and as convenient for making into pills as any other mass. Without presuming to deviate materially from the instructions given in the Pharmacopœia, I proceed as follows:—

℞ Myrrh in lump, and Sagapenum, of each one drachm and a half; Galbanum, one drachm; Assafœtida, half a drachm.

Triturate these with two drachms of carbonate of potash, in an iron

mortar, until the whole are sufficiently reduced, add Raw Sugar, two drachms, and beat all together into a mass, without any liquid, which mass will retain its consistency for any reasonable period.

The pill of aloes with myrrh, compound squill pill, compound rhubarb pill, and other similar preparations, will be considerably improved if made with the assistance of carbonate of potash and raw sugar; but with every other than the compound galbanum pill and compound pill of iron a small portion of water must be used.

The raw sugar (saccharum non-purificatum), as an ingredient in compound pill of iron, is decidedly preferable to the refined, which alone will not form a mass.

In all pill masses and mixtures containing gum resins, the pharmacopœdist will find it preferable to use ingredients that have been powdered in his own premises.

To show how readily the dispenser may obtain these in the greatest purity, I have placed upon the table samples of six of the most valuable medicinal gum resins, reduced to powder by carbonate of potash with great facility; their odour and flavour are particularly good; but the colour of some of them is not so bright as when obtained from the wholesale druggists.

In examining the solubility of gum resins in water with the aid of carbonate of potash, I find them to vary considerably. Myrrh is the most soluble, ammoniacum is next, sagapenum third, while galbanum and assafœtida do not appear to be much, if at all, assisted by it. In galbanum there is a second stratum of precipitate, very flocculent, lying upon one more dense, but that is not the case with any other; and I question if it would be found so invariably in every sample of the gum, for the analysis of gum resins is differently stated by chemists, evidently owing to the differences in their qualities and composition.

This subject leads me to notice the practice of some of our brethren who keep, ready prepared, an emulsion of myrrh, for the purpose of dispensing Griffith's mixture more quickly. This is very objectionable, inasmuch as the emulsion by keeping becomes thin, and on mixing the other substances, a rapid precipitation takes place, leaving the bottle more than half-filled with a nearly transparent fluid.

Pharmaceutical Transactions, July 1, 1843, p. 8.

23.—TREATMENT OF CHLOROSIS.

By T. W. B. Kirkby, Esq., M.R.C.S.

[We publish the following formulæ on account of their judicious composition; and as ready reference to formulæ is often desirable, we think they will be found as good as can be met with, and are not only adapted to chlorosis but to many other diseased states of the system.]

In treating chlorosis, our first object should be to endeavour to get the viscera into a more healthy state of action, and this will be best done by mild aperients. The compounds of aloes, as the decoct. aloes comp.; pil. aloes comp.; pil. aloes c. myrrha; will all be found desirable remedies for this purpose; or a few grains of the blue pill at bed-time, followed by a draught with the decoct. aloes comp., in the morning. Dr. Ashwell also recommends the injection of a pint of warm water two or three times a week into the rectum, as being most efficacious in promoting the peristaltic action, and unloading the large intestines. Violent purging must be avoided. After the full evacuation of the bowels, any of the preparations of iron, as the ferri sulphas, ferri ammonias, ferri carbonas, the mist. ferri comp. ferri

iodid., may be prescribed, as being valuable remedies in chlorosis. We have found the following formulæ of great benefit:—

℞. Ferri sulphatis, gr. xxiv.; quinæ disulphatis, gr. xij,; extr. gentianæ. qss.

M. Ft. pilulæ, xij; cap. j. vel ij., ter die. Or—

℞. Quinæ disulphatis, gr. xij.; ferri sulphatis, gr. xxiv.; pulv. opii, gr. iij.; extr. gentian, qss.

M. Ft. pilulæ, xij.; cap j. vel ij., ter die.

Dr. M. Hall recommends, after the evacuation of the bowels, pills consisting of two grains of the Barbadoes aloes, and the same quantity of the sulphate of iron, taken daily during dinner, as most efficacious; indeed, he has found them almost specific. Dr. Copland recommends the following should be taken either during or after dinner:

℞. Aloes, socot.; ferri sulphatis, aa.. gr. ij.; gum mastic., gr. j.; pulv. capsici, gr. ij.; syr. sympl.; vel olei caryoph, q. s.

M. Ft. pilulæ duæ. Or—

℞. Aloes. 3ij.; assafœtidæ; myrrhæ, aa. 3ss.; ferri. sulphatis, 3j.; caryophyllorum in pulv., ℈j.; pulv. capsici, gr. xxvi.; balsam canad., q. s.

M. Ft. pil. lxvi.; quarum capiat, i. vel ij. pro dose.

In addition to the above remedies, warm clothing, regular exercise in the open air, particularly on horseback, nutritious diet with a moderate quantity of wine, must be enforced. Patients suffering under this disease, and residing in large cities, will often more rapidly recover by removal to a country residence, or a visit to the sea-coast. Sea-bathing, when a *sufficient reaction to the skin follows*, will be also serviceable. The above means are often sufficient to remedy the disease. In the more protracted cases, attended with difficult or scanty menstruation, Dr. Copland recommends the tinct. ferri ammoniati, or the tinct. guaiaci ammoniati, and phosphate of iron, in preference to the sulphate of iron. The decoct. aloes comp. as the most suitable aperient. The ammoniacal injection, composed of one drachm of the pure liquor ammoniæ, to a pint of milk, and injected daily into the vagina, is sometimes useful in promoting the catamenial secretion.

The following summary of the treatment adopted by Dr. Ashwell in chlorosis, is copied from the first volume of the Guy's Hospital Reports. I would commence, he says, the treatment by especial attention to the digestive organs and alimentary canal; for I regard these as a cause, second only to the peculiarity of constitution already mentioned. The deteriorated quality of the blood, and its defective quantity, may both owe their origin to impaired digestion and nutrition. I have alluded to the jaundiced hue of the complexion, and of the surface generally, as frequently leading to the suspicion of hepatic disease. The diagnosis will be made by a careful examination of the region of the liver itself, of the urine and the fæces, which will prevent the possibility of being misled by the colour of the lips and conjunctiva. The best aperients are aloes, rhubarb, the sulphate of soda and manna; and if an alterative be necessary, the hydrargyrum cum creta. Nor must we forget that the injection of a pint of warm water two or three times a week into the rectum, is of all measures the most efficacious in aiding peristaltic action, and in removing the load off the intestines. The compound decoction of aloes, with the tinct. cardam. C.; the compound aloes pill, with the oil of cassia and hyoscyamus; and the vinum aloes, with the compound tincture of rhubarb, are the forms of these medicines I prescribe. The combi

nation with any purgatives or aperient remedies of mild cordials, is exceedingly important. The following may be advantageously exhibited:

℞. Pulv. rhei., 3ss.; magnes. carbon., 3ss.; confect. aromat., ʒj.; aq. cinnam. 3ix.; tinct. cardam. co. 3j.

M. Ft. haust bis ter die in septimana sumendus.

℞. Sodæ sulphatis, ℥iss.; pulv. rhei., 3ij; magnes. subcarb.; sodæ subcarb., aa., 3iij.; pulv. aromatici, 3ss.

M. Ft. pulv. aperiens. sumat cochl. j. vel ij., parva, bis terve in septimana, ex aqua pura.

So soon as the repugnance of them can be conquered, nutricious animal diet, and mild malt liquor, will be productive of benefit. The improvement of the digestive organs, indicated by return of appetite and the more healthy condition of the bowels, evinced by their natural and daily evacuation, are generally accompanied by alteration of complexion, and by the partial disappearance of the chlorotic hue, rarely by the immediate establishment or return of the catamenial secretion. At this crisis, some of the preparations of iron may be exhibited. The following may be prescribed:

℞. Ferri ammon. 3iss.; extr. humuli; extr. papaver. alb., aa., gr. xv.; ol. cassiæ, m. xv.

M. Ft. pil. xxiv., sumat. j., vel ij., bis terve quotidie.

Where there is torpor of the system, flatulence, and hysterical depression, a teaspoonful of the annexed mixture, in water, may be swallowed with each of the pills.

Tinct. humuli, columbæ, vel gentian co., ℥iss.; tinct. lyttæ, 3j.; spt. ammon. ar., 3iij.

M. Ft. mist.

Quinine, sarsaparilla, gentian, and zinc are remedies of acknowledged power; and in a variety of instances, where the sulphate, or other preparations of iron, appeared injudicious, I have given, with decidedly good effect, the following powder, either once or twice a-day:

℞. Ferri subcarb., gr. viij.; pulv. ipecac., gr. j.: hydrarg. cum creta, gr. ij.

M. Ft. pulv.

Chalybeate waters are sometimes extraordinarily efficacious. At what time shall emmenagogues be employed? When the health is so improved that there is less pallor, with regularity of bowels, and more and better blood.

The iodide of iron may be given with undoubted success, especially when glandular enlargements, and other indications of a strumous habit, have been associated with the chlorosis. I give the subjoined form:

℞. Ferri iodid., gr. xvi.; tr. columbæ, vel gentian, co. ℥j; aq. distillat, ℥vij.

Ft. mist. sumat, cochl., ij., magna, bis, terve quotidie.

The iodide of iron sometimes causes headache, vertigo, nausea, heat, and a sensation of heat in the hypogastrium. These symptoms may be removed by taking a teaspoonful of the carbonate of magnesia at night, by the temporary omission of the medicine, or diminishing the dose.

Medical Times, June 18, 1842, p. 183

24.—ON EMMENAGOGUE MEDICINES.

By T. W. B. Kinsey, Esq. M.R.C.S.

Of emmenagogue remedies, or those medicines that are supposed to possess a specific power over the womb, and which have been resorted to by medical men in cases of amenorrhœa for reproducing the menstrual secretion in conjunction with the general treatment, the following appear to have proved most successful:

Savine—from five to ten grains of the powdered leaves three times a day, or a drachm of the compound tincture twice a day.

Dr. Locock recommends a combination of myrrh, aloes, sulphate of iron, and the essential oil of savine.

Ergot of rye—five to ten grains of the powder two or three times a day, boiled in a little milk. In very irritable habits the ergot must be cautiously administered, as it has been found, after a few days, to produce sometimes violent and even highly dangerous spasmodic attacks.

Iodine, in form of tincture, with hydriodate of potash—ten to twenty or thirty drops, two or three times a day.

Strychnine—one-tenth to one-fourth of a grain, two or three times a day. This medicine must be suspended for a few days, should headache or twitching of the muscles follow its exhibition.

Madder, myrrh, guaiacum, mustard-seed, valerian, electricity, aloes have all had their advocates.

In Dr. Ashwell's report of obstetric cases, vol. 3, Guy's Hospital Reports, out of nine cases of amenorrhœa admitted into the hospital, seven simple and two complicated, "six of the simple cases occurred in the persons of delicate females, and the remaining patient was a strong, active, plethoric girl of 19. The former were treated by aperients and metallic tonics; four employed the ammoniacal injection with benefit; while electricity in some cases seemed to be of great service in exciting menstruation."

In cases of *amenorrhœa combined with epilepsy*, D. A. employed the following formulæ, recommended by Dr. Bright:

℞. Pulv. digitalis, gr. j.; Pulv. Myrrhæ, gr. iij.; Ferri sulphatis, gr. j.; Syr. q. s. ft. pil. ter die cap.

"Under this treatment the fits became diminished in number, and the menstrual function normally established."

Medical Times, April 22, 1848, p. 61.

25.—TREATMENT OF ERYSIPELAS.

By M. Velpeau, Paris.

M. Velpeau declares, that having frequently failed with the usual remedies employed against this malady, such as compression, the flying blister, nitrate of silver drawn across, or around the inflamed surface, white precipitate ointment, the various acids &c., a new idea suggested itself to him, from a consideration of the modifications induced in the blood by the preparations of iron. He was thence led to employ as a local application a solution of the sulphate of iron, in the proportion of one ounce to a pint of water, or an ointment containing two drachms to an ounce of lard. The ointment he considers a more convenient application for the head, neck, and trunk. Great care is, however, requisite in thoroughly powdering the salt before mixing it with the lard. It should then be rubbed freely over the whole inflamed surface, and even a little beyond. The solution is employed by means of compresses, wetted every six hours, and maintained on the part by means of a bandage. The skin must be kept constantly moist. One of the inconven

iences of the sulphate of iron, is that of reddening the linen with which it comes in contact. No means of neutralizing this effect has been as yet discovered. M. Velpeau states that in twenty-four cases in which he employed this application, the most marked and rapid influence was exerted over the progress of the eruption. In no instance did the same spot of inflammation resist this means more than twenty-four or forty-eight hours. A singular fact however, was, that erratic erysipelas, when overcome in one part, was not prevented showing itself in other regions already smeared with this application. This would seem to indicate that this remedy, like so many others, is simply curative and not preservative. There is only one point more to which we shall refer, and that is, whether if, as M. Velpeau states, the sulphate of iron succeeds in these cases from its action on the blood, it would not be better to administer it at once internally? This would seem to be but a necessary conclusion from M. Velpeau's own words: "*The fluids of the diseased region (the alteration of which is the direct cause of the erysipelas) produce symptoms of a general character, when they pass into the current of the circulation.*" The authority of M. Velpeau is, however, a sufficient recommendation for the extended trial of this preparation in the treatment of erysipelas.

Ibid, Aug. 26, 1842, p. 297.

20.—ON SOME PREPARATIONS OF IRON.

By John Todd, M.D.

[The following formulæ are recommended by Dr John Todd, as valuable and economical:]

LIQUOR FERRI POTASSIO-CITRATIS.

℞ Acid. Citric. Crystallizat., ℥j. ℥v; Potassæ Carbonatis, ℥vij; Ferri Sesquioxydi, ℥ij; Sp. Ammon. aromat., q. s.; Aquæ distillat., ℥xxiv.

Dissolve the acid. citric, and potass. carbonat. in the water, when the effervescence has ceased, add the ferri sesquioxid., and digest for twenty-four hours (frequently stirring) in a gentle heat; filter the liquid, and neutralise any excess of acid by dropping in, gradually, sp. ammon. arom., until it is saturated. The liquid is of a reddish-brown colour, not precipitated by alkalies, nor altered in colour by the ferrocyanide of potassium, or tincture of galls. The taste is slightly styptic, though not unpleasant. It will be seen that there are two equivalents of acid. citric. combined with one equivalent of potass. and one equivalent of the ferri sesquioxyd.:—*one drachm* of this solution contains *five grains* of the dry ferri potassio-citras.

An agreeable syrup may be made by dissolving sacchar. alb., lb. j in f ℥ viij of the solution, and liquefying by a gentle heat. We have thus f ℥ xviij of syrup; consequently f. ℥ j. will contain 2.25 grains.

SYRUPUS FERRI IODIDI.

℞ Iodine, grs. 362; Ferri Limatur., grs. 90; Aquæ Distillat., ℥viij; Sacchar. alb., lb. j.

Digest the iodine and the iron in the water until it become nearly colourless; pour off the clear liquid; and dissolve the sacchar. alb. with a gentle heat. When cold, pour off the clear syrup, and keep it in half pint bottles well corked, and in the dark. The deoxydizing agency of

the sugar renders it unnecessary to keep a piece of iron wire in the bottle. As no precipitate takes place, except when exposed to a strong light, and air combined. In this, 362 grains of iodine combined with 80 grains of iron, forming 442 grains of ferri iodidi, dissolved in water ℥viij., which by the solution of the sacchar. alb., lb. j. makes ℥xviij., being three grains of ferri iodidi in f ℥ j. of the syrup.

London Lancet, Sept. 10, 1842, *p.* 922.

27.—USEFUL FORM OF SYRUPUS FERRI.

By Mr. C. R. Aikin.

The effect of sugar in depriving metallic solutions of oxygen, wholly or in part, is well known to chemists. Thus the acetite of copper, boiled with sugar, gives a brown protoxyde of copper; sulphate of copper, in like manner, lets fall part of the metal in the metallic state. The salts of iron may long be kept, by this means, in low oxidation, and by the assistance of tartaric acid may be saturated with alkali without apparent change.

In this way a very useful *syrupus ferri* may be prepared with great ease thus:—

In a Wedgwood evaporating dish, dissolve 80 grains of sulphate of iron and 40 grains of acid of tartar in an ounce and a half of distilled water. Add liquid caustic ammonia, which first gives an olive-green precipitate that redissolves by a small excess of the alkali, to a clear grass-green liquid. Evaporate this slowly, nearly to dryness; then re-dissolve in water, with a few drops more of the alkali, and make up the quantity to a fluid ounce and a half. Add to this two ounces of sugar, and boil briskly for a minute or two, and the syrup is made. These quantities furnish about two ounces and a half of a very dark, clear hair brown syrup, which readily dissolves in water without becoming turbid. The syrup may be made in one vessel in a very short time; and it appears to keep for an indefinite length of time without fermenting or changing in any way. In the proportions here given one drachm of the syrup contains four grs. of the sulphate of iron mixed with the tartrite of ammonia.

Medical Gazette, May 6, 1842, *p.* 256

28.—TOBACCO IN HYSTERIA.

By Dr. J. H. Thomson, of Salem, New Jersey.

[In a case of hysteria, related by Dr. J. H. Thomson, where all the usual remedies seemed comparatively useless, tobacco was attended with extraordinary success, but as this is but a solitary case, we cannot depend upon it, till further trials prove it to be more worthy of confidence.]

The convulsions appeared to increase in violence; they lasted for several hours, and left the patient in an extremely exhausted condition. During the attack her countenance was so altered in appearance and expression that her most intimate friend could not have recognised her. Her throat was the chief of seat distress; desperate and continual efforts were made as if to tear away something which was choking her. A distressing "clucking" noise was made, as if the glottis was spasmodically opened and closed. Under these circumstances I determined to make trial of the powers of tobacco. On the next attack some leaves were procured. One was placed for a few minutes in hot water, and then spread over the epigastric region of the patient. In fifteen minutes the hysterical symptoms had all disappeared. The patient

felt sick and continued so for some time, but did not vomit. At the usual hour on the following day, and also on the day after, she was again seized, but on both occasions the attack was arrested *in limine*, by the tobacco, and returned no more. No other means were employed. The patient slowly returned to her former state of health.

This is but a solitary instance of the use of tobacco in one of the Protean forms of this disease, and I am by no means disposed to place much reliance upon isolated cases. The facts are given as they occurred. It will be for further experience to confirm the efficacy of the remedy, or to reject it as unworthy of confidence in this disease.

American Journal of Medical Science, April 1842, *p.* 498.

29.—TREATMENT OF CROUP FOLLOWING ULCERATED THROAT.

By R. W. Gibbes, M.D., Columbia.

[It seldom if ever happens that an attack of croup following cynanche maligna is cured. The following case illustrates the use of a *saturated* solution of nitrate of silver in such a disease. The child, four years old, had an attack of ulcerated throat which seemed to have passed away before the attack of croup came on. Croup followed, and on examining the throat, there was seen an ulcer half an inch in diameter over the left tonsil, and the fauces greatly inflamed. The usual treatment was adopted, but the symptoms gradually increased in severity; "the stridulous breathing became constant and very shrill, the restlessness increased, and high fever set in with great thirst." Twice was a vein opened in the arm until the pulse yielded.]

I now directed calomel two grains, antimonial powder four grains, ipecacuanha half-a-grain, to be given every hour, which I continued for six hours, and then increased the ipecac. to a grain, and continued it every second hour until thirty grains of calomel had been given, without any relaxation of the skin or motion of the bowels—a dose of castor oil produced no action, and on Thursday enemata were used with good effect. The warm bath was twice resorted to, but with no benefit. The breathing became abdominal, the pulmonary murmur not audible to the ear applied to the chest—the cough spasmodic and frequently threatening suffocation, the voice sibilant, and the child very loth to speak. The fever continued, the pulse being 140; although I had applied the solution of caustic (5 grs. to the oz.) to the fauces, once in five or six hours, I found them now covered with a thick tenacious albuminous exudation (diphtherite); and the constant threat of suffocation whenever cough came on, induced me again to administer sulph. copper, which afforded relief by producing vomiting, shreds of membranous matter being thrown off. The mitigation by vomiting being but temporary, and the swelling around the ulcer being disposed to increase, I made a *saturated* solution of nitrate of silver, and applied it freely with a small sponge to the ulcer and fauces, thrusting it far back into the pharynx. I found every application followed by relief and repeated it every two or three hours, where I found the albuminous accumulation present. Constant redness of the cutaneous surface was kept up by turpentine, on the sides and back of the neck; on Thursday night she slept more, she began to fill the lungs better, the chest heaved and the abdominal respiration diminished. There was also a rattling of looser and more attenuated secretion in the bronchia and trachea, the hard ringing shrill crowing was shorter during inspiration. On Friday the fever diminished, and about mid-day the skin became cooler. I now directed warm serpentaria tea and syrup of squills every second hour, which towards evening brought on a free perspiration; at night she slept better, coughed

but little and breathed more freely. The ulcer had contracted, the plastic exudation had ceased, and all the symptoms continued to become more favourable, excepting that she could not speak above a whisper; she had no return of fever; on Sunday the ulcer was healed.

Ibid, p. 304.

30.—CITRATE AND AMMONIO-CITRATE OF IRON.

The citrate of iron has lately been introduced, and is much recommended as a tonic. It is important, however, to observe, that there are two salts similar in appearance, which are occasionally sold indiscriminately as citrate of iron.

The true citrate is very sparingly soluble, and is adapted for pills or powders. The *ammonio-citrate* dissolves with facility, and is a more elegant preparation, when taken in the form of a mixture.

The addition of a few drops of liquor ammoniæ to the citrate, confers solubility on it, by converting it into the ammonio-citrate.—*Pharmaceutical Journal.*

Medico-Chirurgical Review, Oct. 1842, *p.* 621.

31.—ON THE EXTERNAL APPLICATION OF CROTON OIL.

By M. Bouchardat.

Whenever it is required to use this method of counter-irritation, M. Bouchardat strongly recommends a plaster which has been much used by M. Chomel at the Hotel Dieu, and which is thus prepared: Four parts of diachylon-plaster are melted at a very gentle heat, and while it is half liquid, one part of croton oil is mixed with it, and the mixture is then spread in a thick layer on calico. Pieces cut from this may be applied to the skin like ordinary sticking-plaster, and quickly produce an active irritation.

British and Foreign Medical Review, July 1842, *p.* 259.

32.—SMALL-POX BEFORE BIRTH.

By Dr. C. Gnoli.

Rosa Galvani, 37 years old, a healthy woman who had been vaccinated successfully when an infant, was delivered of a male child on June 3, 1841. The labour was easy and the mother recovered without any bad symptoms, but the infant was an eight months' child; labour seemed to have been induced by the small-pox, with the pustules of which the child was covered. At birth the child was in a comatose state, from which it was relieved by allowing some blood to flow from the umbilical cord. On the second day the pustules appeared at their height, on the fifth day maturation began, but on the sixth a black spot appeared in the centre of each pustule, and the child was attacked with febrile symptoms, subsultus, and trismus. On the seventh and eighth days this condition became aggravated, and the child died at 3 A. M. of the ninth day after birth.

When interrogated about her own health, the mother stated that about a week before delivery she felt generally ill, was feverish, lost her appetite, and suffered much from heat in the stomach, but not so severe as to make her seek for medical advice.

Ibid, p. 235.

[The extraordinary part of this case is, that no eruption appeared on the

mother, who had been previously vaccinated. We have other instances of disease attacking the infant in utero, among which we may remind the reader of the case related by Mr. Walker, of Manchester, (Article 41, Retrospect, No. 1,) in which the eyes seemed to have been destroyed in the womb by an attack of purulent ophthalmia, which had run its course before birth; see also, Article 60, No. 3, for a similar case related by Mr. Crompton.]

33.—ANTIDOTE TO CORROSIVE SUBLIMATE.

[M. Miallhe presented the following note to the French Academy of Medicine:]

It results from my experiments that the hydrated proto-sulphate of iron (a substance quite innocuous) possesses the property of instantly decomposing corrosive sublimate. The products of the decomposition are the proto-chloride of iron and the bisulphate of mercury, inert substances.

Provincial Med. and Surg. Journal, Aug. 27, 1842, p. 429.

[As no proofs whatever are adduced in the above note of the extraordinary efficacy of the hydrated proto-sulphate of iron, we must wait for further confirmation before relying upon it. The value of gold-leaf and iron-filings may be more depended upon. (See *Retrospect*, No. v. p. 30.)]

34.—TANNIN, AS AN ANTIDOTE TO STRYCHNIA.

By Dr. Ludicke.

[In a case where strychnia had been incautiously taken by the patient to the amount of half a grain in six hours, and where the symptoms were becoming exceedingly dangerous, Dr. Ludicke ordered ice to be applied to the head, and half a grain of tannic acid to be given every hour, either in an effervescing draught or in distilled water. After twelve grains had been taken, he substituted for it a decoction of two ounces of oak bark in six ounces of water, with an ounce of syrup of cinnamon and a scruple of sulphuric æther. The symptoms of poisoning entirely disappeared. Mesner, in Dresden, recommends as an antidote for strychnine, decoction of galls or of oak bark; five ounces of which precipitate two grains of nitrate of strychnine.]

British and Foreign Medical Review, July 1842, p. 229.

35.—EXTEMPORANEOUS PRODUCTION OF MILK.

By M. Dichost.

M. Dichost, a Russian chemist, proposed the following plan for the preservation and extemporaneous preparation of milk. He evaporates newly-drawn milk, at a very gentle heat, till it is all brought into a state of fine powder. It is then put into small glass bottles, which are completely filled and hermetically sealed, with ground glass stoppers. A small quantity of the powder thus obtained, dissolved in an appropriate quantity of water, affords on the instant a milk of a very good quality. The powder will remain good for a great length of time.

Ibid, p. 229.

36.—ON THE EFFECTS OF CALORIC APPLIED TO THE SKIN.

M. Gondret states that the flame of a burning match being instantaneously applied to the skin produces a sharp pain, which disappears as rapidly as it has been produced. This flame forms upon the skin a small reddish mark, which after a few days, leaves no traces behind it. The instantaneous application of this flame almost always speedily dissipates a rheumatic, gouty, or any other kind of pain. He has also found this result in most kinds of chronic pains; and he further thinks that it might be advantageously employed in asphyxia, while waiting till more appropriate remedies could be adopted; he has in several instances more or less completely dissipated the pains and convulsive contractions of the *aura epileptica*, and prevented or considerably retarded the invasion of the epileptic fit by this means. The physiological effects of this agent have, he thinks, a great resemblance to those produced by electricity. On asphyxiating a rabbit by repeated shocks applied to the occiput, the flame of a match passed along the vertebral column quickly restored the animal to its natural condition. This result is exactly similar to that which he had obtained, under similar circumstances, by galvanism as well as by cupping.

Medical Times, July 9, 1842, *p.* 229.

37.—ON THE PROTO-IODURET OF IRON.

Dr. Dupasquier recommends the following formula for the preparation of the proto-ioduret of iron, which possesses this advantage, that it can be kept for an indefinite time without any extraneous mixture—that is, without the addition of any sugar or other conservative principle. The object is to keep the solution of the ioduret in constant contact with a great excess of iron. Take 50 grammes (2 ounces, 2 drachms, and 40 grains) of iodine, 100 grammes (4½ ounces and 4 scruples) of iron wire, and 400 grammes (rather more than a pint) of distilled water; cut the wire into pieces about an inch long, put them into an emery vessel, add the water and iodine, and stopper it. If some of the solution is required for immediate use, the bottle must be plunged, for about ten minutes, into water heated to 175° Fahrenheit, shaking it frequently during the time. The quantity of the solution required must be filtered afterwards, when the liquid will pass colourless. If it be not wanted immediately, it should be set aside, and the combination of the iron and iodine will take place without the necessity for heat. The solution can be kept for any length of time, for as fast as one portion of the iron, dissolved by the iodine, becomes oxydized by the oxygen of the air, and is precipitated in the state of hydrate of sesquioxyde, the portion of iodine thus set at liberty re-acts on the iron wire, and forms a fresh proto-ioduret, to replace that which has been decomposed. The decomposing action of the oxygen of the air is then constantly neutralised by the recomposing action caused by the incessant contact of the metal.—*Bulletin de Therapeutique.*

Provincial Medical and Surgical Journal, May 7, 1842, *p.* 99.

38.—ASSAFŒTIDA IN HOOPING COUGH.

Dr. Reiken has derived more advantage from the use of assafœtida than from any other remedy in three epidemics of hooping-cough. It is indicated only after the febrile period has passed, and its influence is diminished in the third stage, when tonics should be combined with it. As assafœtida is a medicine which it would be very difficult to induce children to take by the mouth, Dr. Rieken prescribes it in enemas—he orders three grains of the gum resin to

be rubbed up with a sufficient quantity of yolk of egg, and mixed with 125 to 250 scruples of water. This mixture will suffice for ten or twelve lavements for children under a year old; for from four to six, for children three years old; and for two or three only, for those that are older. For the first five or six days, two enemata are given daily, sometimes more; after that, one at night will be sufficient. If diarrhœa should come on, it may be stopped by increasing the quantity of the yolk, and by adding starch or gum arabic; olive oil should be added if tenesmus should supervene. The use of the assafœtida is very well borne by children of a strong constitution, and still better by those that are nervous or lymphatic.—*Annales de la Soc. Med. de Bruxelles.*

Ibid. Sept. 3, 1842, *p.* 448.

39.—EFFECTS OF ACETATE OF LEAD IN LARGE DOSES.

By Alexander Lane, M.D., S.R.N.

Some time ago a patient of mine labouring under phthisis confirmata, was attacked with hæmoptysis. The remedies recommended in such cases were resorted to without relief; as a final measure I had recourse to the acetate of lead, and administered it in the usual doses, but without producing the desired effect. The powerful astringent nature of this medicine tempted me to hazard what I then considered a large dose, without opium, more particularly as the quantities I had already given did not appear to have any direct effect upon the system. I therefore gave five grains and waited the result with anxiety; four hours passed away without any untoward symptom, and the disposition to hæmorrhage seemed less. I then repeated the dose, and waited four hours more with less anxiety, after which I again repeated the dose—thus making fifteen grains in eight hours, without producing any other effect than that of arresting the disease. This patient eventually died from phthisis, but the hæmoptysis did not again return during life. The result of this case led me to doubt the poisonous nature of this drug, at least in moderate doses, and an opportunity soon offered itself to me of testing, whether in reality it was as dangerous as it was supposed to be. A lady labouring under menorrhagia applied to me; the complaint had been of some standing, and resisted all medical treatment. I commenced the acetis plumbi in doses of ten grains every four hours, removing the disease on the evening of the seventh day, without giving any inconvenience to my patient. This lady had also a disposition to tubercular phthisis, which has since disappeared, and this has led me to suspect that this medicine may possess some influence over disease of the lungs prior to the commencement of the suppurative process. I am now giving this medicine in a very aggravated case of menorrhagia in doses of ten grains every ten hours, and with a very fair prospect of recovery, notwithstanding the digestive organs having suffered so considerably from one year's continued drenching and quackery. I am of opinion that a drachm, or even two of this medicine might be given with perfect safety in desperate cases—and I am in the hope that when its full power shall become known to the medical world, its use will become more general in those fatal diseases. I have no doubt of its power in arresting hæmorrhage, more particularly from the lungs and uterus, and as for the stomach, its effects should be instantaneous.

Dublin Medical Press, June 29, 1842, *p.* 406.

[In an interesting paper on this subject see Retrospect V., Article 30.]

40.—ERGOT OF RYE IN PARAPLEGIA.

By M. Payan

In an essay on this subject, M. Payan commences by stating that we should not consider the ergot of rye as an exciter of uterine contractions only, many facts showing that it acts only on the rectum, the bladder, and the lower extremities, when these parts are in an asthenic condition, in the same manner as it affects the uterus in inertia of that organ. And as we cannot reasonably attribute to this agent similar specific effects on parts so essentially different, we must refer its action to some other organ on which these different parts are dependent. M. Payan, therefore, considers that the ergot of rye acts primarily and especially on the spinal cord.

This being granted, it follows that we may rationally have recourse to the employment of ergot of rye in paraplegia, and cases of weakness of the lower extremities, depending on defective action of the spinal cord, without alteration in its structure. M. Payan adds the three following facts in proof of the justice of his observations. A man, 40 years old, fell on his perineum, and paraplegia followed. He recovered entirely under treatment at Marseilles; and subsequently meeting with a similar accident at Aix, was admitted into the hospital of that place. In the absence of M. Payan various remedies were employed to remove the paraplegia, as liniments, blisters, &c., but without success. On the return of M. Payan, these measures were substituted by the ergot of rye, given to the extent of a drachm. Two hours afterwards the muscles began to agitate the limb, and he recovered a certain degree of power every day. At the end of six days the patient could walk with the assistance of a stick. During a fortnight the ergot was administered in two drachm doses; the treatment was then suspended on account of some gastric irritation, but the amelioration continued, and in a month the patient left the hospital.

A man, aged 38 years, was submitted to the care of M. Payan, with paraplegia. Various active remedies had been employed without success. The inferior extremities were able to bear the weight of the body, but if he attempted to walk many steps they gave way under him. The right leg was insensible, the left partially atrophied. The bladder had lost its power of contraction. A drachm of the ergot was administered each morning; after a few days the dose was increased to two drachms. At the same time friction on the spine and lower extremities with an irritating liniment were employed. After eighteen days both the lower limbs had become so far recovered that the patient was enabled to return to his home.

A labourer was suffering under very advanced paraplegia as the result of a severe saturnine affection. Various remedies had been unsuccessfully employed to combat the disease. The ergot of rye effected a complete cure.

From these three cases M. Payan infers not only the efficacy, but also the entire innocence of this remedy, which he has in many instances employed in large and long-continued doses without any ill effect.—*Journal de Pharmacie.*

Medical Gazette, July 22. 1842, *p.* 654

41.—ON TINEA.

Formulæ used in the treatment of tinea capitis.—The following are the formulæ commonly employed by M. Casenave in the treatment of this disease, at the hospital of St. Louis:—*Ioduret of sulphur ointment.*—Ioduret of Sulphur, 1 scruple; Lard, 30 scruples. Depilatory ointment—Subcarbonate of Soda, 8 scruples; Lime, 4 scruples; Lard, 30 scruples. Pitch Ointment—Citrine ointment, 15 scruples; Pitch ointment, 30 scruples; or, powdered Pepper, 2 to 4 scruples; Lard, 30 scruples. The ointment is applied every

evening; in the morning the head is washed with the following lotion:—Subcarbonate of Potash, 8 scruples; distilled water, 500 scruples.

Medical Times, April 23, 1842. *p.* 61.

42.—ON A VERY SIMPLE MEANS OF ARRESTING EPISTAXIS.

By Dr. Negrier, of Angers.

This consists in nothing more than closing with the opposite hand the nostril from which the blood flows, while the arm of the same side is raised perpendicularly above the head. In every instance in which he has had recourse to this means during the past three years M. Negrier has always found that it suspended the hæmorrhage: a fact of which he offers the following explanation:

When a person stands in the ordinary posture, with his arms hanging down, the force needed to propel the blood through his upper extremities is about half that which would be required if his arms were raised perpendicularly above his head. But since the force which sends the blood through the carotid arteries is the same as that which causes it to circulate through the brachial arteries, and there is nothing in the mere position of the arms above the head to stimulate the heart to increased action, it is evident that a less vigorous circulation through the carotids must result from the increased force required to carry on the circulation through the upper extremities.

British and Foreign Medical Review, Oct. 1842, *p.* 550.

43.—ON THE USE OF QUININE IN CHILDREN.

By M. Trousseau.

In a lecture delivered by him at the Hopital Necker, M. Trousseau made some observations on the difficulty of administering the sulphate of quinine to children, owing to its nauseously-bitter taste. In reference to this he recommends the impure quinine (*quinine brute*), which is more active than the sulphate of quinine, is insoluble in the saliva, and has not much taste. One hundred parts of it contain sixty-five of pure quinine, thirty of cinchonine and only five of water; while in one hundred parts of the sulphate of quinine there are thirty of water. This preparation is soluble in lactic acid, and is quickly changed into soluble salts in the stomach by the acids which exist in that viscus. Its resinous consistence is another advantage, since it admits of its being rolled into pills; in which form it may be mixed with sago, or given in any vehicle which contains no acids, since they would at once convert it into bitter and insoluble salts.

Ibid. p. 560.

44.—ON THE CROWING RESPIRATION.

By Dr. Marshall Hall, F.R.S., &c.

[In the Lancet for April 17, 1841, was published an interesting paper on this subject, which is named by some writers "*thymic asthma*," by others *laryngismus stridulus*. In the above paper it is related that several children of the same family were attacked by the same disease and died. In one instance it was supposed to be owing to an enlarged state of the thymus gland. The parents of course felt exceedingly anxious when the next child, about five months old, was attacked with hooping-cough, which was dreaded as the forerunner of the fatal malady which

had before deprived them of their progeny. At first, however, no crowing affection occurred. "The sound of the cough though somewhat similar, differed to a practised ear from the sound emitted by the other complaint. The whoop too in this case only came as it usually does with the cough. The crowing noise had in all former cases come on without a cough occurring, either when the child awoke from sleep, or when it was irritated or frightened, or agitated in any way." The child seemed to recover from the hooping-cough, and in time cut two teeth, but the prevalence of easterly winds in March and April brought back the hooping-cough, and with it came the dreaded crowing, which was first observed when the child awoke from sleep, about April 12th.

"The constant recurrence of the crowing without any cough accompanying it, the struggle for breath, the blue appearance of the face, the distension of the veins of the head, and the occurrence of the same kind of spasms which had marked the complaint in the other children, all seemed to convince the parents that whatever the cause might be, there was, independently of the hooping-cough, the same complaint which they had watched with so much anxiety and pain in the former case."

Mr. Mimpriss began to treat the case as the others had been treated, with calomel, iodine ointment to the region of the thymus gland, leeches to the temple, &c. But this failed in procuring relief, and when Dr. Marshall Hall was called in, he recommended "that the gums should be freely lanced all round twice a day, without any reference to whether teeth were coming through or not; that the child should be kept clothed in flannel from the neck to the wrists and ankles; that the head should be kept constantly cool with a lotion (one part of spirit of wine to seven of water), and the feet kept warm by fomentations; that a cloth wetted with the same lotion as that used to the head should be applied to the neck over the thymus gland; that three grains of potass should be given three times a day, and one grain of calomel in five grains of rhubarb every night;" that a healthy wet-nurse should be procured, and every precaution adopted to protect the child from cold winds. This treatment was persevered in for some time, the gums were then lanced less frequently; the symptoms were surprisingly alleviated, the crowing and spasms continued to occur for a few days, and then entirely ceased.

This treatment would seem to show that the complaint is owing more to teething and to the stomach and bowels, then to any enlargement of the thymus gland, although no doubt in many cases that organ may happen to be enlarged. Dr. Marshall Hall makes the following remarks on the too much neglected operation of lancing the gums in children:]

I have long regarded the process of dentition as not very dissimilar from a state of *sub*-inflammation. I have therefore prescribed the gum-lanced, not only in cases of actual dentition, but in cases in which I did not immediately expect the eruption of the teeth through the gums, and even in cases in which *all* the teeth had already appeared. From the same motive I have prescribed scarification of the gums within and without the highest and lowest border of the gums, or the lines along which the teeth make their appearance.

I have prescribed the use of this remedy, in a word, to correct a state of the blood-vessels and nerves, which, though physiological, borders on a pathological character. I have prescribed it to be used daily. I have been satisfied with nothing short of the subjugation of the excessive action and fulness of the vessels, and of the disappearance of morbid actions, chiefly of a nervous character, in distant parts.

I have thought it right to continue the remedy, even when these effects have been produced, knowing by painful experience, how apt they are to re-

cur. I have considered that an infant had better have its gum lanced a thousand times unnecessarily even, than be subjected to *one* convulsive attack. I have compared the *operation* on the *gum* with the *morbid effect* of a convulsion on the *brain*.

My prescription has been met by opposition, but by no argument; by forbodings of terrible ulceration, and even mortification of the gums, but by no such occurrence.

In one word, I believe we have still to learn the measure and extent of the advantages to be derived from the full, free, and daily scarification of the gums during the process of dentition.

London Lancet, July 9, 1842, *p.* 506.

[Sir Henry Marsh, in the Dublin Hospital Reports, (vol. v. p. 610,) speaking of a patient attacked with this affection, says, that on his being removed into the country the symptoms ceased immediately, and the child completely recovered; but on being brought back to a large and newly-painted house in the city, the spasmodic attack recurred violently, and again ceased on a removal into the country. And it is a curious fact, that two other children were attacked with a similar spasmodic affection on being brought into this newly-painted house; of these, one died in a convulsion, and the other recovered on being sent into the country.

In all such cases it is highly necessary to avoid exciting *mental emotion*, whether by using the child violently, alarming it suddenly, or awaking it suddenly out of sleep. If a nurse be frequently out of temper, she will not only use the child roughly, but the milk is found to be thereby rendered unwholesome. A change of nurse is, therefore, often advisable.

In a case described by Dr. Henderson, the greatest advantage was derived from rubbing the spine with opium liniment and croton oil, so as to bring out a copious rash all over the parts.—(See *London Lancet*, Aug. 27, 1842, p. 749.)]

SURGERY.

45.—ON DISEASES OF THE URINARY ORGANS.

By Sir B. Brodie, Bart., F.R.S., Sergeant Surgeon to the Queen, &c., &c.

[The reader will find a very excellent review of Sir B. Brodie's work on "Diseases of the Urinary Organs," in several of the periodicals. We prefer that in the Med. Chir. Review, and take the liberty of drawing largely from its pages. The entire profession will cordially agree with the following sentiments of the Editor's:—

"Sir Benjamin Brodie's contributions to the literature of surgery are so eminently practical, and so valuable to those who prefer facts to theories, that we have never neglected an opportunity of laying them before our readers. And we would take this opportunity of observing, that works of this description should be brought prominently forward, and held up as models to young medical men. The taste of the day would seem to be inclining too much towards compilations, learned, no doubt, and laborious, but adapted for the closet, rather than the field of practice, and better calculated to make men talk than act. In the literary productions of Sir Benjamin Brodie we find a totally different spirit. They contain the knowledge which is taken from the bedside, and can again be taken to it. There is no parade of quotations, no innumerable references to the opinions of others, no transcendental speculations, no ingenious and unsubstantial disquisitions, no extravagant views, no hunting after what is merely new, nor bigotted adhesion to what is merely old, no disposition, in fact, to deviate from that straight path of moderation and of common sense, which leads in the applied sciences, as in the common business of life, to the most successful and solid results."]

Stricture of the Male Urethra.—Sir Benjamin thus describes the ordinary course of the affection. The patient, he says, complains of more than usual difficulty in voiding his urine; but the difficulty does not amount, at least in the first instance, to an absolute retention. Perhaps he has a shivering. There is a sense of fulness in the perinæum, and some degree of deep-seated induration is perceptible in one part. This gradually increases, and a tumor presents itself under the skin of the perinæum, surrounded with more or less of œdematous effusion, especially into the scrotum. The skin becomes inflamed, and the fluctuation of fluid is perceptible underneath. An abscess bursts, or is opened with a lancet, and a considerable quantity of putrid pus is discharged. Here the œdema of the neighbouring part subsides. Pus continues to flow through the orifice of the abscess, and after some time it is observed that urine flows through it also. The discharge of pus diminishes, but the urine flows in larger quantity; and whenever the patient makes water, part escapes through the natural channel and part by the new opening. The abscess has evidently a communication with the urethra, behind the stricture. If you have an opportunity of dissecting the diseased parts while the abscess is recent, you find it to open into the urethra by a ragged irreg-

ular orifice. If you examine them at a later period, the orifice in the urethra is found to be smooth, regular, and rounded at the margin; the external orifice in the perinæum is reduced to a narrow diameter, and is seen in the centre of a button-like projection of the skin: and the abscess itself is contracted, perhaps reduced to a narrow passage, with a smooth surface, which presents somewhat of the appearance of it being lined by a mucous membrane. We now say that the case is one of *fistula in perinæo*. The whole of these phenomena are easily explained. The urethra, constantly teased by the pressure of the urine against it, ulcerates behind the stricture. If the stricture had been completely closed, as in a case of retention of urine, an extensive extravasation of urine would have immediately taken place; but under the existing circumstances this does not happen, and only a moderate quantity, perhaps not more than a few drops, dribbles into the cellular membrane, sufficient to induce inflammation and suppuration and no further local mischief. A *fistula in ano* is formed in the same manner, by ulceration of the rectum allowing the escape of a minute quantity of fæculent matter into the neighbouring textures.

Sir Benjamin goes on to remark, that sometimes the abscess in the perinæum is accompanied by typhoid symptoms. If the abscess is opened, the matter that issues is putrid and urinous—if the opening is deferred the patient may die.

"I have described," continues our author, "the simplest form of the urinary abscess. But it is often more complicated. It is not always confined to the perinæum, sometimes it makes its way forward through the upper part of the scrotum, and presents itself on the lower part of the penis, between the scrotum and the glans. At other times it burrows in the opposite direction, forming a large collection of matter in the nates, or it may burst in the groin, or in the scrotum. In one case, in which I had the opportunity of examining the body after death, I found a large abscess in front of the pubes, extending half-way towards the navel; another among the adductor muscles of the left thigh; and a third among the muscles at the upper part of the right thigh, as far outwards as the *foramen ovale* of the ischium; the periosteum having been destroyed, and the bone itself rendered carious to a considerable extent: and all these abscesses could be traced into an abscess in the perinæum, communicating with the urethra behind a stricture by a small orifice. In another case which I attended with Mr. Samuel Cooper, there was a *fistula in perinæo*, communicating with a large abscess of the pelvis on one side of the bladder.

I have seen a few cases in which an abscess of this kind had made its way into the rectum, forming a fistulous communication, between it and the urethra. If such communication be of a large size it is a source of great distress, as fæculent matter occasionally passes through it from the rectum into the urethra. If it be small, however, the absolute inconvenience is but trifling, and the patient is rendered sensible of its existence only in consequence of a small quantity of air escaping occasionally by the urethra; and this may continue, without any further symptoms supervening, for many years."

Introduction of the Bougie.—We are tempted to introduce Sir Benjamin's directions for the introduction of the bougie. "The best kind of bougie," he observes, "is that in common use, made of plaster spread on linen, and rolled up. It should be smooth on the surface, and neatly rounded at the extremity. The plaster bougie should be rubbed until it becomes warm, so that it may be moulded by the hand, and bent into the form of the urethra. Thus bent, it is much to be preferred to the elastic bougie, which is made of elastic gum on the outside and of catgut within. The latter may, it is true, be bent into any form: but it is elastic, and however you may bend it, it always regains its straight figure; and hence it is not well constructed for

being passed along the curved canal of the urethra. The bougie which is used for the purpose of examining the urethra should be of a full size, that is, large enough to fill the urethra without stretching it. A small bougie may deceive you in two ways: it may pass through a stricture, and thus lead you to believe that there is no stricture, when there really is one; or it may have its point entangled in the orifice of one of the mucous follicles of the urethra, or in some accidental irregularity of the canal, and lead you into the opposite mistake of supposing that there is a stricture where none exists. If you use a bougie of the size of the urethra you are not at all liable to the first error, and you are much less liable to the second than you would be otherwise. The bougie should be cylindrical. There is no advantage in any bougie, except a very small one, being conical. A conical bougie becoming larger towards the point which is held in the hand, is likely to extend forcibly the orifice of the urethra, and to excite inflammation in it.

The existence of stricture in the anterior part of the urethra, or at its orifice, is so easily ascertained that it seems unnecessary to offer any observations on the subject. The following rules, then, are to be considered as relating especially to those cases in which it is a question whether there be or be not a stricture in the membranous part of the urethra, or in its immediate vicinity.

I generally find it best to introduce the bougie with the patient in the erect posture, keeping the extremity of it, which I hold in my right hand, close to his groin, and passing it until it will go no further in that direction; after which, by turning the instrument, I bring it horizontally forwards, and push it gently towards the bladder. If the patient has well-marked symptoms of stricture, and the bougie meets with an obstruction in some part of the urethra, you may be justified in considering this as sufficient to indicate the existence and situation of the disease. If, however, the patient has no such well-marked symptoms, you should not advance at once to the conclusion that there is a stricture because the bougie does not immediately enter the bladder. The extremity even of a large bougie may hitch in some irregularity of the mucous membrane; or if you are at all rough in the use of it, a spasm may be induced in the membranous part of the urethra, or in the muscle which surrounds it, preventing the bougie from being passed, although no such cause of obstruction exists at other times. Under these circumstances you should introduce a silver catheter, or what is better, a metallic sound, having a moderate curvature, and warmed to the temperature of the body; and it is probable that, if there be no stricture, the metallic instrument will be easily introduced, although the plaster bougie could not be introduced at all. In short, where there are no decided symptoms of stricture you ought not to adopt the opinion that a stricture exists without having made a very careful examination of the urethra. Inattention to this rule has led to many patients being subjected to a course of treatment for stricture who had never laboured under the disease."

Treatment of Retention from Spasmodic Stricture.—Sir Benjamin recommends the immediate and direct recourse to mechanical means.

"Begin," he says, "by taking one of the smallest gum catheters, which has been kept for a considerable time on a curved iron wire, and which retains the curved form after the wire is withdrawn. Introduce it without the wire; and as it approaches the stricture, turn the concavity of the catheter towards the pubes, elongating the penis at the same time by drawing it out as much as possible. It is not very improbable that it will pass through the stricture, and enter the bladder. The urine will then flow through it in a fine stream, and the patient will obtain immediate and complete relief.

If you fail with the small gum catheter, try, not a plaster, but a small catgut bougie. Let this be well made; that is, firmly twisted, nicely rounded at

the extremity, and every where well polished. Observe the same rule of elongating the urethra, and it will probably enter the stricture. It is not necessary that the catgut bougie should pass on to the bladder; it is sufficient if the stricture grasps, or holds it. Let it remain in the stricture until there is a violent impulse to make water. Then withdraw the bougie, and the urine will follow it in a small stream. If the patient empties the bladder, the object is attained; but, otherwise, re-introduce the catgut bougie, or rather introduce another of the same size (for a catgut bougie which has been once used is not fit to be employed a second time); and let the patient retain this second bougie as long as he can. If the straight catgut bougie cannot be passed, you will often succeed in effecting its introduction by bending the point of it. This contrivance enables you to keep the point sliding against the upper surface of the urethra, avoiding the lower part, in which the obstruction is always most perceptible, and in which the bougie is most likely to become, as it were, entangled.

Even where you have failed to relieve the patient by means of the catgut bougie, you will often succeed in introducing a silver catheter, or an elastic gum catheter mounted on a firm iron stilet, into the bladder. The catheter employed on this occasion, if the stricture be of recent formation, should be nearly of the full size of the urethra; but if the stricture has been of long duration, it should be considerably smaller. The common silver catheter is not so well adapted for the purpose as that which I now show you. You will observe that it is shorter and less curved than usual; and that it is fixed in a wooden handle, which renders the instrument more manageable than it would be otherwise. If you use an elastic gum catheter, the iron stilet should have a flattened handle, resembling that of a common sound. You should pass it as far as the obstruction, and having ascertained where it is situated, withdraw the catheter a little, a quarter of an inch for example, and then, as you pass it on again towards the bladder, keep the point sliding against the upper part of the urethra, which is towards the pubes, avoiding the lower part, which is, of course, towards the perinæum. Be careful to employ no violence. If you lacerate the urethra, so as to cause hæmorrhage, you will be defeated in your object. Press the catheter firmly, but gently and steadily, against the stricture, keeping in your mind the anatomical position of the parts, and being careful to give the point of the instrument a right direction. When the pressure has been thus carefully continued for some time, the stricture will begin to relax. It will allow the point of the catheter to enter, and, at last, to pass completely through it into the bladder. In some instances this will be accomplished in the space of one or two minutes; while in others it may be necessary to persevere for a quarter of an hour. As soon as the catheter has reached the bladder, the patient's sufferings are at an end, as the bladder becomes completely emptied. If you have used the elastic gum catheter, it may be prudent to allow it to remain in the urethra and bladder for one or two days, or even for a longer period; and this will go far towards accomplishing the cure of the stricture.

If you are skilful and prudent in the management of the catheter, you will generally succeed in introducing it into the bladder; but if you fail in doing so, the attempt to introduce it may still be useful to the patient. The pressure of the catheter against the stricture, if kept up for a considerable time, exhausts the morbid irritability of this diseased portion of the urethra. The spasm becomes in a considerable degree relaxed, and if you withdraw the instrument when the patient has a violent impulse to make water, the urine will follow in a stream. Observe, that I am taking it for granted that you are careful to avoid all violence. If the membrane of the urethra be lacerated, the probability is, that the spasm will not give way; and if, under these circumstances, you persevere in the attempt to introduce the catheter, you will but aggravate the evil which it is your object to remove.

The remedy on which you are most to rely, where these mechanical means fail, is opium. From half a drachm to a drachm of laudanum may be given as a clyster in two or three ounces of thin starch. If this should not succeed, give opium by the mouth, and repeat the dose, if necessary, every hour until the patient can make water. According to my experience, the cases in which the stricture does not become relaxed under the use of opium, if administered freely, are very rare. The first effect of the opium, is to diminish the distress which the patient experiences from the distension of the bladder. Then the impulse to make water becomes less urgent; the paroxysms of straining are less severe and less frequent; and after the patient has been in this state of comparative ease for a short time, he begins to void his urine, at first in small, but afterwards in larger quantities.

It is customary in these cases to employ the warm bath. It is, indeed, sometimes useful, but you can place no dependence on it as compared with opium. It is not sufficient that your patient should sit in a hip-bath: the bath, to be at all efficient, must be complete; his whole person ought therefore, to be immersed, and he should remain in it for half an hour, or an hour, or longer, unless he previously becomes faint. Bleeding from the arm is seldom required in cases of retention of urine from stricture; but in some instances, even where other means have failed, taking blood from the perinæum by cupping gives immediate relief.

Purgatives require some time to produce their effect, and in most cases, at the period of your being called in, the symptoms are too urgent to admit of this delay. Where, however, a stricture is chiefly spasmodic, and the retention follows the too great use of fermented liquor or spirits, I would advise you, if you are sent for on the commencement of the attack, to prescribe a draught of infusion of senna with the tartrate of potass and tincture of jalap. As soon as this has fully operated, and the bowls are emptied, give thirty or forty drops of tincture of opium by the mouth, or order an opiate clyster to be administered, and, in all probability, the attack will subside.

After all, there is no absolute rule as to the treatment of retention of urine from stricture. One person is relieved in one way, another in another; and you will do well in each case to bear in mind the particular mode of treatment which has proved of service, in order that you may at once resort to it, if you are called a second time to the same patient, under the same circumstances. In one instance, you will be able to pass a catgut bougie, and not a catheter; in another you will be able to pass a catheter, and not a catgut bougie. One individual is relieved by opium, another by the warm bath. A gentleman of my acquaintance, who was subject to attacks of this description for a considerable time, almost always began to make water after a pint of warm water had been thrown up as a clyster. To show what various treatment is necessary, I have been in the habit of mentioning the following case. A gentleman who had been long in hot climates, laboured under an old stricture of the urethra. He was able to pass a bougie for himself; and he did this at regular periods, and for a long time experienced little or no inconvenience from his disorder. One night however, he was seized with retention of urine, and called me out my bed in consequence. I introduced a gum catheter, which entered the bladder with perfect ease, and drew off the urine. He called me up another night, and another, and another still; and one night he called me up twice. At last, it occurred to me that he always sent for me on the alternate nights; and on inquiry, I found that the attack of retention regularly came on about twelve o'clock, and even though the catheter had entered the bladder, the spasm did not relax, so as to enable him to make water by his own efforts, until five or six in the morning. I determined then to treat the case as we do other intermitting and periodical diseases; and I prescribed him the sulphate of quinine. The first night

after he began to take it he had an attack of retention; but he had no attack afterwards."

When an operation becomes indispensible, which Sir Benjamin thinks it must *rarely* be, he is of opinion that puncturing the bladder from the rectum is applicable to the greatest number of cases. But those who operate frequently must often operate unnecessarily.

Treatment of Stricture in the Anterior part of the Urethra.—Sir Benjamin observes that a *stricture at the orifice of the urethra* may be dilated by means of a common bougie, or a short metallic instrument; the size of the bougie being gradually increased, and the introduction being repeated daily or on the alternate days, according to circumstances. The process of dilatation is, however in many instances, attended with much inconvenience to the patient. In those cases, especially, in which the contraction began in early life, every introduction of the bougie causes considerable pain; at the same time that the disposition to contract is so great that the operation requires to be repeated almost daily. The consequence is that the part is kept in a constant state of inflammation, and, between the disease and the remedy, is a source of incessant annoyance to the patient. In a case of this sort, which was extremely troublesome, Sir Benjamin determined at once to divide the contracted part of the urethra. This was easily accomplished by means of a pair of knife-edged scissors, one blade with a blunt point being introduced into the urethra, and the division being made in the situation of the frænum. No hæmorrhage followed the operation. A piece of lint was kept between the cut surfaces to prevent their re-union, and in about ten days they were cicatrized, being covered by what had already assumed a good deal of the appearance of a mucous membrane.

Strictures in the anterior part of the urethra, but behind the orifice, require to be mechanically dilated, by the introduction of bougies or metallic instruments. Sometimes the patient obtains relief on very easy terms, the dilatation being readily accomplished, and the use of the bougie once in three or four days being sufficient to prevent a recurrence of the contraction. At other times, however, the disposition to contract is so great, that it becomes necessary to introduce the bougie once or twice daily; and, indeed, Sir Benjamin has known cases in which the patient was seldom able to expel his urine until the bougie had been employed.

After speaking of the *common wax bougie*, which Sir B. Brodie thinks the preferable instrument where it can be used, he observes that he does not employ the common flexible metallic bougies, as they are liable to lose the shape which you have given them during their introduction, and, in fact, are at the same time too flexible and too inflexible for any useful purpose. Sir Benjamin's bougies, if of a small or middle size, are made of solid silver; the larger ones of silver or steel, or steel plated, or of a composition similar to, but firmer than that of the flexible metallic bougie. These sounds should be very slightly curved, and for ordinary cases not more than eight inches and a-half or nine inches long, exclusive of the handle. You may use them as you would use the common bougie for the purpose of gradually dilating the stricture, beginning with one of a small size, and gradually proceeding to those which are larger. These metallic instruments are applicable; 1st, to cases of old and indurated strictures, which the common bougie is incapable of dilating; 2dly, to those in which, in consequence of some improper management, a false passage has been formed, into which the point of a common bougie will easily penetrate, but which an inflexible instrument may be made to avoid; 3rdly, to those in which, from long-continued disease, and without any previous mismanagement, the urethra has become distorted, and its surface irregular; and 4thly, to several recent cases in which the smooth polished metallic surface gives less pain to the urethra, and is less likely to induce spasm, than the softer, but less smooth surface of the common bougie.

In very old and inveterate cases, where other means have failed, a full-sized instrument will often succeed. "The sound should be rather above than below the middle size. Of course the same rule in this respect does not apply in every instance, but that which I generally find it most convenient to employ has only a moderate curvature. It is made of silver, fixed in a flat wooden handle, being nine inches in length from the handle to the point; no part of it is more than one-fifth part of an inch in diameter, and at the point the diameter is reduced to one-sixth of an inch.

In using the sound you should pass it carefully as far as the stricture, and then press the point firmly and steadily against it, taking care that it is directed in the line of the urethra towards the bladder. The pressure is to be continued for five, ten, or fifteen minutes, or even longer, according to circumstances; and this process is to be repeated once in two or three days. If a false passage exists, it is probably on the lower part of the urethra towards the perinæum; and it is in this situation that, by careless management, one may be easily made. To avoid this mischief, you must direct the point of the sound especially to the upper part of the stricture next the pubes. The pressure should be as much as can be made without the urethra being lacerated, and without inducing any considerable degree of pain. In some instances the stricture has little or no sensibility, in others it is exquisitely tender; and in the latter cases the pressure should be very trifling at first, but it may be gradually increased as the tenderness subsides (as it will do) under its influence.

The result of this treatment is, that at each operation the anterior part of the stricture seems to become relaxed to a greater or less extent; and that at last the instrument penetrates entirely through it and enters the bladder. The period at which this happens, of course varies in different cases. The permanent change of structure may be trifling, the stricture being chiefly spasmodic, and one or two applications of the sound may be sufficient. There may be much gristly induration, occupying a considerable portion of the urethra, and many applications may be required. A patient was under my care, in whom the stricture was surrounded by a mass of hard substance, which could be distinctly felt in the perinæum, apparently an inch and a half in length. The stream of urine was of the smallest size, and varied so little that it was evident there was little or no liability to spasms. For many years before I was consulted no instrument had been made to enter the bladder; and the ordinary methods, after a long trial, failed in my hands, as they had done in those of others. At last I succeeded by the method which I have just described, but not until I had persevered in it for many months.

After describing the method of treating stricture by means of the *gum catheter*, which is left in the urethra, Sir Benjamin points out the cases to which he believes it to be applicable. They are, 1st. Where time is of much value, and it is of great consequence to the patient to obtain a cure as soon as possible.

2dly. Where a stricture is gristly and cartilaginous, and, therefore, not readily dilated by ordinary methods.

3rdly. Where, from long-continuance of the disease, the urethra has become irregular in shape, or where a false passage has been made by previous mismanagement. Under these circumstances, if you can succeed in introducing a gum catheter, and let it remain for a few days in the bladder, you will find your difficulties at an end; the irregularities will disappear, and the false passages will heal.

4thly. Where a severe rigor follows each introduction of the bougie. This disposition to rigor is such, that it is sometimes impossible to proceed with the treatment in the ordinary way. Observe, in these cases, when the rigor takes place. It seldom follows the use of the bougie immediately. It almost always

occurs soon after the patient has voided his urine, and seems to arise, not as the immediate effect of the operation, but in consequence of the urine flowing through the part which the bougie has dilated. Now, if, instead of a bougie, you use a gum catheter, and allow it to remain, the urine flowing through the catheter, the contact of it with the urethra is prevented, and the rigor is prevented also.

Sir Benjamin conceives that the *caustic bougie* is applicable to the following cases: 1st. Those of spasmodic stricture, where two or three applications of the caustic may be sufficient to relieve all the urgent symptoms. 2ndly, some cases of old stricture, in which there is still a considerable disposition to spasm. In these last cases apply the caustic two or three times, and no oftener. It will probably relieve the contraction as far as it is spasmodic, and thus enable you to proceed more advantageously, with the use of the bougie or metallic sound. 3dly. The caustic may be used very properly in some cases of stricture which are endowed with peculiar irritability, in which every application of the common bougie induces severe pain, or brings on spasm, preventing it entering the stricture. Two or three applications of the caustic may be sufficient to deprive the stricture of that unnatural sensibility which otherwise would have foiled your efforts to effect a cure. Yet our author seldom employs caustic for these reasons: 1st. Although the caustic often relieves spasm, it also very often induces it. It is true, that in many instances it enables a patient to make water with more facility; but in many instances, also, it brings on retention of urine. 2dly. Hæmorrhage is a more frequent consequence of the use of the caustic than of the common bougie, and it sometimes takes place to a very great and to an almost dangerous extent. 3dly. Where there is a disposition to rigors, the application of caustic is almost certain to produce them; and frequently the application of caustic induces rigors where there had been no manifest disposition to them previously. 4thly. Unless used with caution, the application of caustic may induce inflammation of the parts situated behind the stricture, terminating in the formation of abscess.

Division of Stricture.—Sir Benjamin remarks of Mr. Stafford's method for dividing strictures that there are very few cases for which it can be needed. But he relates an instance in which he adopted a modification of it with success.

Case.—"A man, forty years of age, was admitted into St. George's Hospital, in the year 1835, labouring under a stricture, near the bulb of the urethra, complicated with a fistulous opening in the perinæum. When he voided his urine, a very small quantity came away by the urethra, the greater part being discharged by the perinæum. The disease had existed for more than twenty years, and the abscess in which the fistula had originated, had followed an injury received while riding on horseback thirteen years ago. For many years no instrument had been passed through the stricture. At last he became a patient under the late Mr. Earle, in St. Bartholomew's Hospital, where he remained under treatment for five months, but with no more success than formerly.

Finding after repeated trials that no instrument could be made to penetrate through the stricture, with the concurrence of my colleagues, I performed the following operation:—

The patient having been placed in the same position as in lithotomy, a full-sized plaster bougie was introduced, and held by an assistant with its extremity resting against the stricture. I then made an incision in the perinæum, dilating the fistulous sinus, and laying open the membranous part of the urethra as far forward as the stricture, the exact situation of which was marked by the bougie. The bougie was then withdrawn, and an instrument was introduced in its place, consisting of a straight silver tube, closed at its extremity, except a narrow slit, through which a small lancet could be made

to project by pressing on a stilet which projected from the handle of the instrument. The round extremity of the tube being pressed against the anterior part of the stricture, I applied the fore-finger of the left hand, introduced through the wound in the perinæum and urethra, to its posterior surface The pressure of the instrument being distinctly communicated to the finger through the substance of the stricture, the lancet was protruded, and the stricture was divided. A silver catheter was then easily introduced through the urethra and divided the stricture into the bladder, and allowed to remain there. The urine of course flowed through the catheter. At the end of two days the silver catheter was removed, and replaced by one of elastic gum. The wound in the perinæum gradually healed, and the patient ultimately recovered, making water in a full stream, and being able to introduce a sound of a full size into the bladder, so as to prevent a recurrence of the contraction.

The instrument used on this occasion was ten inches in length, exclusive of the handle, and rather more than one quarter of an inch in diameter. The lancet measured three-sixteenths of an inch at its broadest part; it terminated in a sharp point, and could be made to project by pressing a button on the other end of the stilet to which it was attached to the length of half an inch, returning to its place within the silver tube when the pressure was withdrawn by means of a spiral spring. In using it, one cutting edge of the lancet was directed towards the pubes, the other towards the perinæum. The advantages of dividing the stricture by this method, as compared with other methods of operating, are 1st, that the free opening made in the perinæum prevents all danger from infiltration of urine; 2dly, that the fore-finger of one hand, being applied to the posterior surface of the stricture, serves as a guide for the lancet, and enables you, with the exercise of little skill and caution, to make an exact division of the stricture."

Fistulæ in Perinæo.—After pointing out the necessity for freely dilating the natural passage, before the fistula can have a chance of closing, Sir Benjamin adds his latest experience. "I formerly," says he, "have advised the patient never to void his urine without the aid of the catheter; but I am now inclined to believe that the irritation thus kept up tends, on the whole, to delay rather than to expedite the cure. At other times I have kept the patient in bed for some weeks, with an elastic gum catheter constantly in the urethra and bladder; but I cannot say that, with my present experience, I have much more faith in this mode of treatment than in that which I mentioned before. After a few days the urine generally begins to flow by the side of the catheter, which does not therefore answer the purpose for which it was introduced, of preventing its escape by the sinus. Then in many cases the catheter causes an abundant suppuration of the urethra; and the purulent discharge, finding its way into the sinus, prevents it from closing as much as it would be prevented by the contact of the urine."

Blind Fistula in Perinæo.—Sir Benjamin advises the following method of treatment: Watch for the opportunity when matter is collected in it, and then establish an external opening by dividing the integuments over it with a lancet, so as to convert it into a fistula of the ordinary kind. There are some of these cases, however, the treatment of which requires a more particular explanation. A patient may apply to you who, perhaps, has had gonorrhœa formerly, followed by a slight obstruction of the urethra, complaining at the same time of a discharge from the urethra, which he calls an obstinate gleet. You examine the perinæum, and you find in it a small tumor, not larger than a horse-bean or filbert. It is at some distance from the surface, and the patient says that it has been co-existent with the gleet, and that it is sometimes inflamed and tender. Now this little tumor indicates the existence of a blind fistula. There is a small orifice in the urethra, and a narrow channel leading from it into the centre of the tumor; and every time that the urine flows, a

very small quantity finds its way into this channel, escaping from it immediately afterwards by regurgitation into the urethra. In consequence of the smallness of the cavity, and the quantity of solid matter deposited on its outside, the fluctuation of fluid in it is not perceptible. I have known this state of things to continue, producing more or less occasional inconvenience for many years. The first thing necessary to the cure is to make an opening in the perinæum leading into the cavity in the centre of the tumor. But this may not be very easily accomplished, on account of the smallness of the cavity. You should introduce the lancet somewhat obliquely, so as to divide the tumor as nearly as possible through its centre. Then introduce some lint, so as to prevent the wound uniting by the first intention. After three or four days you may remove the lint, and then you will ascertain whether you have done what was required, by observing whether, when the patient voids his urine, any portion of it flows through the opening which you have made. If this be the case, nothing further is required than that the stricture should be dilated in the usual way. If, however, no urine flows through the opening, you may proceed thus: introduce a piece of caustic potash through the wound into the centre of the tumor, so as to make a considerable slough. A portion of the tumor being thus destroyed, the probability is that, when the slough has separated, it will be found that the central cavity is exposed, and that you have accomplished the object which you had in view.

[Obstructions of the urethra may arise from *mechanical injury* to various parts of the urethra, as, from the violent pressure of some circular body, as a ring round the penis, or a blow upon the urethra as it passes under the pubes where the mucous membrane is especially liable to suffer from such a cause. Sir Benjamin gives the following directions with regard to the treatment:]

"In all cases," he says, "in which there is reason to believe that the urethra has been divided or lacerated in consequence of an injury inflicted on the perinæum, it is the duty of the surgeon not only to look at the great and immediate danger, but to guard against future ill consequences; and much may be done at this period towards preventing a most serious inconvenience, which would be relieved with difficulty afterwards. If there be a penetrating wound, in which the urethra is probably implicated, an elastic gum catheter should be introduced with the least possible delay, and allowed to remain in the urethra and bladder until the healing of the wound is far advanced, or, at all events, until it is ascertained that the urethra has not suffered; the catheter being, however, occasionally removed for a limited time, if it seems to act as a source of irritation.

In cases of contusion of the perinæum, when the effusion of blood in the perinæum and scrotum, and more especially the discharge of blood from the urethra, or any other circumstances, lead to the suspicion that the urethra has been lacerated, the same treatment should be had recourse to, the gum catheter should be introduced as soon as possible, and allowed to remain for at least some days after the occurrence of the accident. The extravasation of blood does not in itself justify the making an incision in the perinæum; and indeed, according to my experience, there can be no worse practice than that of making an incision in a case of simple ecchymosis, either in this or in any other situation. But where such extravasation exists, there is always reason to apprehend that there may be further mischief; the progress of the case, therefore, should be carefully watched, and on the first appearance of any symptoms which might be supposed to indicate that urine had escaped into the cellular membrane, or that suppuration had begun to take place, a staff should be introduced into the urethra instead of the gum catheter, and a free incision should be made from the perinæum into it, the gum catheter being replaced afterwards.

But it may be that these measures of precaution have not been adopted in the first instance, and that you are not consulted until after the lapse of a considerable time, when the wound or laceration of the urethra is already healed, leaving the urethra contracted in the situation of the cicatrix. Here you may perhaps succeed in gradually dilating the urethra, as where there is an ordinary stricture. But in a case which I have already mentioned, I have stated that "this was not accomplished without a great deal of local and constitutional disturbance;" and so it has been in all cases of this kind which have fallen under my observation. Nor will the occurrence of such difficulties be a matter of surprise to any one who bears in mind that here the object is to dilate, not a genuine stricture, but a cicatrix, of the urethra, and who has not observed how the cicatrix of an old sore leg inflames and cracks when the subjacent muscles begin to increase in bulk from exercise, or how the endeavour to extend forcibly the contraction after an extensive burn produces the same result. It may be that these difficulties are insuperable under the method of treatment by simple dilatation; and under these circumstances, a small staff having been introduced into the bladder, the cicatrix of the urethra should be divided by an incision from the perinæum, a gum catheter being introduced afterwards, and allowed to remain until the wound is healed over it. But even then much remains to be accomplished. The cicatrix has still a greater disposition to contract than an ordinary stricture; the bougie or catheter must be had recourse to almost daily, and the patient must be contented if he can persevere in the use of insruments of a moderate diameter, as the urethra will invariably resent the attempt to keep it dilated by those of large dimensions."

The condition of the patient is improveable, where the injury of the urethra is limited. But where there has been actual loss of some portion of the canal, the patient must either be content to void the whole of his urine by the perinæum, or submit to an operation for establishiug a communication between the anterior and posterior portions of the urethra. This operation is best explained by a case.

"A young man, in making a leap on horseback, received a violent blow on the perinæum from the pummel of the saddle. The immediate consequence of the injury was hæmorrhage from the urethra, and this was followed by extravasation of urine and sloughing of the perinæum to a considerable extent. A catheter was at first introduced into the bladder, but it was afterwards removed. The sloughs having separated, the sore in the perinæum gradually closed, a small fistulous opening only being left immediately behind the scrotum, through which the whole of the urine was discharged. He was in this state seven months after the occurrence of the accident, when he arrived in London, and Mr. Baker advised him to have my opinion on the case.

On introducing an instrument into the urethra, I found an obstruction of the canal immediately below the pubes. Several ineffectual attempts having been made to penetrate the obstruction in the usual manner by bougies and sounds of various sizes, I had recourse to the following operation:—The patient having been placed in the same position as in lithotomy, a staff was introduced into the urethra, and held by Mr. Hilles, who, with Mr. Baker, assisted me in the operation, with the extremity of it resting against the obstruction. I then made an incision in the perinæum, extending backwards from the part in which the staff was to be felt, in the direction of the prostate gland. It was now evident that not less than three-quarters of an inch of the urethra was deficient below the pubes; the place of it being occupied by a rigid cicatrix. This having been divided longitudinally by the point of the scalpel, I was enabled, though not without some difficulty, to pass the staff from the part at which the extremity of it rested, into the sound portion of the urethra towards the bladder, and then into the bladder itself. The staff

was then withdrawn, and an elastic gum catheter having been substituted for it, the latter was allowed to remain in the urethra and bladder. On the ninth day after the operation, there being some degree of irritation at the neck of the bladder, the catheter was removed, being reintroduced, however, after two days more. From this time it was removed at intervals, which were sometimes longer, sometimes shorter, according to circumstances. The wound in the perinæum gradually healed, and in less than ten weeks from the time of the operation was reduced to the diameter of a small pea. The patient was now able to introduce a silver catheter of the size of his urethra into the bladder without difficulty, and he repeated this operation so as to draw off his urine three or four times daily. When he voided his urine without the catheter, by placing the point of his finger on the opening in the perinæum, he was enabled to discharge the whole in a sufficient stream by the urethra."*

While treating of chronic inflammation of the bladder, and speaking highly of the *decoction* of pareira brava, Sir Benjamin observes:—"The infusion of *pareira brava*, which has been introduced into the last Pharmacopœia of the College of Physicians, does not at all answer the purpose of the decoction, and is nearly useless. The decoction is made thus:—Take half an ounce of the root of the *pareira brava*, add three pints of water, let it simmer gently, near the fire, until reduced to one pint. The patient is to drink from eight to twelve ounces daily. If so large a quantity of liquid should be offensive to the patient's stomach, he may take the extract of *pareira brava* instead, twenty-five or thirty grains being equal to half a pint of the decoction.

Lithotrity.—Sir Benjamin gives a slight sketch of the modern history of lithotrity, which establishes the fact that no man can be said to have wholly invented *and* applied the present lithotritic apparatus. On the contrary, like most other valuable discoveries it has been perfected only by successive and gradual steps.

Sir Benjamin alludes to Baron Heurteloup's application of the hammer. He doubts its superiority to the screw, and believes that "there is nothing that can be done by the hammer which may not be done quite as effectually by the screw, while the latter method is not liable to many serious objections which may be urged against the former."

Sir Benjamin gives a sketch of the instrument which he employs. It is Weiss's screw lithontriptor—its average length about eleven inches, exclusive of the handle. But he has one instrument, made for a particular occasion, thirteen inches long. It is well to have several instruments, of various sizes and shapes.

"For calculi of a small size the construction (except as to the addition of the screw) need scarcely differ from that of the common urethra-forceps which I described formerly; but for larger ones the opposite blades of the forceps should be furnished with projections or teeth; and for those of a still larger size you will find it convenient to be provided with a forceps, in the

* "The last report which I had of this patient was six months after the operation, and to this effect: 'that he had continued to improve, and expected in the course of a fortnight to be as well as ever.'

Since the manuscript of this Lecture was prepared for the press, a case very similar to that described above has come under my care, in the person of a young man nineteen years of age. He had received an injury of the perinæum in leaping over a gate about a year ago. Three-quarters of an inch of the urethra below the pubes seemed to be deficient. I made an artificial canal, joining the anterior and posterior portions of the urethra to each other, by perforating the cicatrix with the instrument having the concealed lancet, leaving an elastic gum catheter in the urethra and bladder afterwards. At this time, about ten weeks after the operation, the patient voids his urine by the urethra in a full stream, without pain or difficulty, no more than a few drops escaping by the opening in the perinæum. A common plaster bougie may be introduced readily into the bladder. Mr Guthrie saw this patient with me, and lent me his assistance at the operation."

fixed blade of which there is a longitudinal slit, while there is a corresponding wedge-like projection, fitted to enter the slit, in the opposite surface of the moveable blade."

Through the slit, fragments drop into the bladder, so that a large stone may be crushed. The diameter of the instrument must vary with that of the calculus and of the urethra. It should usually be as large as the canal would admit. It should be cylindrical, except in the handle. But it is well to be provided with one, the blades of which beyond the curvature are somewhat flattened, and in proportion broader than elsewhere. It is useful for seizing and crushing the smallest fragments.

So much for the instruments. Sir Benjamin next speaks of the measures preparatory for an operation.

The forceps should never be used in a bladder which will not retain at least six ounces of water. If the organ be irritable, the patient must be placed in the recumbent posture and the catheter introduced every, or every other day, with the view of injecting some ounces of tepid water. In this way the bladder will gradually become educated to containing liquid. If chronic inflammation exists with a deposit of adhesive mucus, the remedies for that state must be adopted. An abundant formation of this mucus forms a great objection to the operation—because it indicates an unfavourable condition of the bladder, and because the fragments are apt to be entangled in it. But where there is only little mucus, this may altogether disappear after the first crushing of the calculus.

The urethra should be dilated so as to admit an instrument of sufficient size and strength. If contraction within or behind the glands cannot be easily stretched, it must be divided with a bistoury.

There is a turnid condition of the prostate, impeding the introduction of the instrument, and rendering the part very liable to bleed. It subsides after a few days of constant repose in the recumbent posture. Sir Benjamin has "observed this state of things to exist especially after travelling in a carriage; and it forms one of many reasons, where the patient has come from a distance, for not recommending the operation to be had recourse to until he has had ample time to recover from the fatigues of his journey."

Let us pass to the operation.

The patient should be on his back on a sofa, or on the edge of the bed, with a thick cushion under the pelvis, to elevate the neck of the bladder. A silver catheter is then introduced, and as much tepid water as can easily be borne is injected.

"The catheter used for this purpose should be provided with a stopcock, and the extremity of it should not be prolonged a great deal beyond the curvature. It may then be used, not only as a catheter, but also as a sound, for the purpose of exploring the bladder, and ascertaining in what part of the bladder the calculus is, at that time, lodged. This knowledge is always useful, but it is by no means indispensable; and I have often been able to seize a small stone with the forceps which I had not been able to detect by other methods previously. The injection of the bladder having been completed the catheter is to be withdrawn, and the lithotrity-forceps is to be introduced in its place. In consequence of the peculiar shape of the latter this is less easily accomplished than the introduction of the catheter. The mere depression of the handle is not always sufficient to make it enter the bladder; and it is often necessary at the same time to apply a moderate but steady force during the time that the curved part of the instrument is passing through the neck of the bladder. This is especially the case where the prostate gland is in any degree enlarged. You will know when the instrument has fairly entered the bladder by the facility with which you can move it in any direction, and by your being able to open the blades to any extent without giving the patient pain. You may then explore the bladder with the forceps, and endea

you to ascertain the exact situation of the calculus in it. If it be lying on one side, by opening the blades, and then gently and cautiously turning them towards it, you will probably be enabled to seize it. If you do not succeed by this method, by the following you will rarely fail.

Raise the handle of the forceps so as to bring the convexity of the fixed blade in contact with the posterior part of the bladder; then open the moveable blade, at the same time making a moderate pressure downwards in such a manner as to depress the bladder towards the rectum. The instrument being then gently shaken by a lateral motion of the hand, the calculus, in whatever part of the bladder it may be situated, will roll between the blades and will be seized by closing them. Having been thus carefully secured, by turning the screw it is broken into fragments. The whole of this is a very simple process, requiring but little practice to make you a perfect master of it. When the calculus has been once broken, the fragments are to be seized and crushed in the same manner. They will fall one after another into the grasp of the forceps; and there is no limit to the number that may be crushed at one time, except what is afforded by the diameter of the urethra. Every fragment that is crushed adds to the accumulation of calculus matter; and if the accumulation be very large, it becomes difficult, or impossible, to withdraw the instrument without injury to the membrane of that canal. The marks on the handle of the instrument inform you of the exact extent to which the blades are separated; and you must use your own discretion, founded on your knowledge of the size of the urethra, as to the point at which you should stop. The forceps first used being then withdrawn, you may use a second, and even a third, in the same manner; and thus you may not only crush a great number of fragments at one operation, but you may remove from the bladder a great deal of what has been crushed."

The forceps should be withdrawn very slowly and gently. When as much as is prudent has been done, the catheter should be re-introduced, and the bladder emptied.

"Another syringe-full of water may then be injected, which the patient may be left to void by his own efforts, or which may be drawn off by means of a large catheter, with two apertures near the extremity, of sufficient size to allow some of the smaller fragments to escape through them."

Sir Benjamin thinks it very unsafe to allow a patient to walk after the operation. He should remain on his bed or sofa. Whenever there has been rough usage of the urethra, at all events, an opiate should be given after the operation, and the bowels should be attended to.

The patient should be watched lest a fragment stick in the urethra, and occasion retention. But this is unlikely if the patient reposes, and the fragments seldom find their way into the urethra for the first day or two. After this they begin to pass away with the urine, and the patient should collect them.

If in the operation the stone is of large size, the forceps with the slit in one blade and wedge in the other, should be made use of. Scarcely any calculus will resist this.

A small calculus may be got rid of by a single operation. A larger one requires several. It should not be repeated until the patient has recovered from the effects of the preceding one, nor should it be delayed long afterwards.

Of course it is of the first importance to get rid of every fragment. The bladder should be explored with sound *and* forceps, at least twice after the cure seems complete. With this precaution, when the patient can empty the bladder by his own efforts, the chance of a fragment remaining is very slight.

"But it is quite otherwise in those cases in which the patient in consequence of an enlargement of the prostate gland, is unable to empty the bladder by his own efforts. Hence only a small portion of the crushed calculus

will come away in the stream of urine, and you must be satisfied with washing out the remainder of it through the catheter by repeated injections of tepid water. Mr. Weiss has invented a forceps which, when the blades are opened in the bladder, answers at the same time the purpose of a catheter, and thus is often very useful; still on ordinary occasions you will find nothing to answer the purpose better than a silver catheter of as large a size as the urethra, with two very large apertures near the closed extremity, not placed laterally, as in the ordinary catheters, but one on the anterior or concave, and the other on the posterior or convex surface. It may indeed be said, that, in the cases now referred to, this kind of operation ought not to be recommended. But it will sometimes happen, that although the patient may have had no difficulty of emptying the bladder before the operation, the prostate may be rendered tumid in consequence of its being irritated by the repeated introduction of the instruments, so that he is unable to empty the bladder afterwards. Besides, although this state of things adds to the difficulty of the operation, it is not sufficient in itself to prevent it being brought to a successful termination; and in cases in which there is good reason to believe that the calculus is of a small size, it forms no objection to it."

Sir Benjamin next adverts to the inconveniences or dangers of lithotrity.

1. Hæmorrhage. This may arise from the forcible passage of the lithotrity forceps through the neck of the bladder. Sir Benjamin has known it discolour the urine for two or three days. But it has never interfered with the operation.

2. Rigors may follow lithotrity. The rigor is usually produced by the stretching of the urethra by the withdrawal of the forceps; or it may be occasioned by a fragment of calculus sticking in the urethra. A dose of opium may prevent the rigor altogether, or defer it till the dext day. Rigors do not appear to interfere materially with the patient's recovery.

3. Sir Benjamin refers to two cases in which fragments of calculus impacted in the urethra gave rise to urinous abscess in the perinæam. One patient died two months after with symptoms of diseased kidney. The other patient got well.

4. Sometimes the patient suffers from pain in the whole canal of the urethra, from the simultaneous escape of many fragments. Sometimes he labours under great irritation of the bladder, apparently from a fragment lodged near its neck. He may have complete retention, but Sir Benjamin has never seen it last for any time.

The patient should partake plentifully of diluting drinks. If fragments lodge, a middle-sized catheter may be introduced into the bladder, when they may be either dislodged and come away, or pushed back and afterward crushed. Sir Benjamin has removed fragments from the anterior part of the urethra by long slender forceps. It *might* be necessary to make an incision in the penis or the perinæum. Sir Benjamin, however, believes that if perfect repose is enjoined after the operation, the passage of fragments will seldom occasion serious inconvenience.

5. Inflammation of the mucous membrane of the bladder may occur. It generally subsides spontaneously in two or three days, or continues till a fragment is either discharged from the urethra, or pushed back into the bladder by the catheter. In one instance Sir Benjamin saw this inflammation prove fatal. The stone had been large—perhaps the patient had not been kept quiet.

On the whole Sir Benjamin is of opinion that lithotrity has great advantages over lithotomy. He touches on the cases to which it is not applicable.

1. In boys, under the age of puberty, lithotomy is too successful to be abandoned. The urethra is not wide enough to be favourable to lithotrity.

2. Lithotomy is attended with little danger in the female, while her short and wide urethra admits too readily of the escape of the injected water by the side of the lithotrity forceps.

3. Large stones are not well adapted for lithotomy, but they are still worse adapted for lithotrity. Sir Benjamin inquires whether it would not be well to crush first and cut afterwards.

4. Lithotomy is not well adapted for cases of enlargement of the prostate gland, where the patient cannot empty the bladder, unless the calculus is small; *then* the fragments may be washed out of the bladder through a large catheter. When the tumor of the prostate projects into the bladder, it is difficult to elevate the handle of the instrument sufficiently to catch the stone readily.

5. Lithotomy is very fatal where the kidney is diseased, especially, Sir B. Brodie supposes, from the loss of blood that it entails. Crushing he thinks *safer*. But any shock to the system must be hazardous, and it must, usually, be more advisable to palliate.

After a case, Sir Benjamin sums up what he has to say in favour of lithotrity in these words:

"With the exception of such cases as those which have been enumerated, there are few to which this method of treatment may not be advantageously applied. It may be said that the exceptions are numerous; but they are the result chiefly of delay. If a patient seeks the assistance of a competent surgeon within six or even twelve months after a calculus has descended from the kidney into the bladder, the urine having remained acid, it will rarely happen that he may not obtain a cure by a single operation, and with so small an amount of danger that it need scarcely enter into his calculations. As time advances the facility with which he can be relieved diminishes, and after the lapse of two or three years, especially if the urine has become alkaline, it is probable that the calculus will have attained such a size as to render the old operation preferable, and that the access of disease in the bladder or kidneys may render any operation hazardous. It would be absurd to say, and it would be unreasonable of human-kind to expect, that an operation that has for its object to relieve them of a disease so terrible as stone in the bladder, can be always free from inconvenience, and difficulty, and danger. Nevertheless, from what experience I have had, I am satisfied that the operation of lithotrity, if had recourse to only in proper cases, is not only much more successful than that of lithotomy, but that it is liable to fewer objections than almost any other of the principal operations of surgery."

Medico-Chirurgical Review, Oct. 1842, *p.* 435—456.

46.—ON THE TREATMENT OF THE HÆMORRHAGIC DIATHESIS.

By James Miller, Esq., F.R.S.E., Lecturer on Surgery, and one of the Surgeons to the Royal Infirmary of Edinburgh, &c.

[We need not remind the reader that several cases of this description have lately been recorded, all of which have been most disastrous in their issue, showing how little dependence is to be placed on treatment however energetic or varied.

It is probable that the vice in question is connected both with the blood and blood-vessels. In all the cases the blood is described as preternaturally fluid, and in some deficient in fibrin, although this latter assertion is not substantiated by chemical analysis. A deficiency of fibrin, however, seems to be one very probable cause of the hæmorrhagic tendency, and "as the bleeding advances so does the disproportion of fibrin as well as the blood corpuscles, the effused fluid towards the termination of the

case scarcely staining the bandages and often resembling a colourless serum."

It seems evident that the hæmorrhage in question is capillary, "or, at all events, proceeds only from the capillaries and the minutest ramifications of the arterial twigs;" for if arteries of large size were involved they might be checked much more easily by the ligature. The diminished power of coagulation of the blood must, therefore, depend, in a great measure, on want of its due proportion of fibrin. Dr. Carpenter observes in his work on Physiology, that "ordinary coagulation depends on the fibrin of the blood, which, separating itself from the fluid in which it was previously dissolved, and during this process, attracting the red particles from a clot more or less dense in proportion to the amount of fibrin which it contains. That the coagulation is due to the fibrin, and that the red particles are merely passive in the process, appear from several considerations."]

But the proportion of fibrin is not to be here estimated in regard to the general mass of the blood merely, but rather in regard to the blood globules; it being only when excessive in proportion to these, that the tendency and power of coagulation become most marked. In chlorosis, for example, in which condition the globules are diminished, while the fibrin remains the same, the clot of drawn blood is firm, though small, and not unfrequently exhibits the buffy coat; and we know that in chlorotic patients, hæmorrhage is remarkably unfrequent; while in simple plethora, in which the globules are excessive, the clot is of an opposite character. Sometimes both globules and fibrin are deficient, and in experiment it has been found "almost impossible to deprive blood of its corpuscules, without, at the same time, defibrinizing it." This double deficiency is found to obtain in scrofula, and seems to exist also here: and between the two cachexies, the scrofulous and hæmorrhagic, we shall find other points of similarity. In such a state of utter impoverisation, the blood will, of course, be unequal to the efficient performance of many vital actions, coagulation among the rest.

Mere loss of blood tends to produce this deficiency of both fibrin and globules, but not in an equal ratio. At first the latter are chiefly removed; and consequently, at an early period of the case, loss of blood thus favours natural hæmostatics, by increasing the proportion of fibrin to globules, and thereby augmenting the tendency and power of coagulation; but the hæmorrhage continuing, both fibrin and globules disappear—hope from coagulation then becoming more and more feeble, as the experience of such cases as those we are now treating of most abundantly proves.

But not only is diminution of the proportion of fibrin favourable to continuance of hæmorrhage, by inducing non-coagulability of the blood; it also directly predisposes to it, by occasioning congestion of the capillaries. "A certain degree of viscidity has been found, by the experiments of Pousseuille, to favour the passage of fluid through capillary tubes; and thus, if the viscidity of the blood be diminished by a loss of part of its fibrin, stagnation of the current, and extravasation of a portion of the contents of the vessels will be the result. This has been fully proved by the numerous experiments of Magendie." "It has been ascertained that one of the effects of a diminution in the proportion of fibrin is a tendency to the occurrence of hæmorrhage or of congestion, either in the parenchymatous tissue, or on the surface of the membranes." This condition of capillary congestion may thus, of itself, lead to hæmorrhage in an unbroken texture; and in the case of a wound, if a continuance of such tendency to capillary congestion be coupled with impaired or lost power of coagulation in the accumulating fluid, we can readily understand how the amount and continuance of hæmorrhage may be thereby dangerously enhanced.

We believe, then, that in the hæmorrhagic diathesis, the blood contains a less proportion both of fibrin and of globules, than in health; and that in consequence it predisposes to capillary congestion, and is more or less deficient of the power of coagulation.

[" But the blood alone is not to blame. The capillaries and arterial tubes are doubtless deficient in their healthy properties;" they seem to be attenuated in their coats, and in such cases of hæmorrhagic diathesis they have been found "reduced to half their usual thickness, but this seems more probably the result of passive dilatation by loss of contractility, than of original deficiency of the fibrous coat, as Dr. Burnes and some others seem to suppose." In health the capillaries possess that degree of contractility that their orifices are easily closed, but in the hæmorrhagic diathesis the power of contraction seems so much impaired that they are more like passive tubes.]

Thus, to constitute the hæmorrhagic diathesis, we have not only the blood flowing through dilated and non-contractile tubes, but sent thither in greater volume than in ordinary and healthy circumstances, thinner and more fluent than in health, and little if at all able to arrest its own course by assuming the solid form. In addition, the capillary tunics are not only thin, but weak, and easily lacerated; a slight bruise produces serious ecchymosis; coughing may induce hæmoptysis; a sneeze brings on epistaxis; diarrhœa occasions copious evacuations of blood by the rectum; and extravasation is not unlikely to follow but slight causes within internal cavities. The whole circulating system, besides, is usually in an irritable and excited condition; the pulse being considerably above the healthy standard, and the heart acting with unusual force and sharpness. Not unfrequently, a febrile condition at the same time exists; and when it does exist, it increases the intensity of the diathesis.

Such being the apparent causes of the disorder, we are now prepared to turn our attention to the *cure*.

1.—*Can we amend the faulty condition of the blood?* Were the red globules in excess we could easily diminish their amount, thereby favourably increasing the proportion of the fibrin, by venesection; and thus we should at once readily obtain blood more disposed to firm coagulation. But the globules are already themselves deficient, and consequently from that mode of treatment (what may be termed the negative increase of the proportional amount of fibrin), no hope is to be entertained. Whether we will or not, however, bleeding goes on from the part, at first drawing more from the globules than the fibrin; and during this brief and early period of the case, a comparatively favourable opportunity is thus afforded for coagulation. Of that we are bound to avail ourselves, as it flits by; but it is plainly a condition of the system which we dare not seek directly to imitate or obtain. As the bleeding continues, both fibrin and globules disappear, ultimately little else than serum remaining in circulation; and during that part of the case, all efforts towards arrestment must plainly be especially hopeless.

Can we effect a direct and actual addition to the amount of circulating fibrin? We have already hinted at a considerable similarity between this hæmorrhagic condition of the system and that of scrofula. In both, there is a lamentable want of fibrin. In the latter form of disease, albumen is constantly being substituted for the more valuable plastic material; and in the treatment, it is a principal feature to increase the power of elaborating albumen into fibrin; in other words, to increase the supply of the latter. A similar mode of procedure, therefore, with a like object in view, will be available in the hæmorrhagic diathesis. The general powers of the system are to be invigorated by nutritious diet, &c. This is very suitable in struma, when plenty of time is afforded for such treatment taking effect. But

in the hæmorrhagic diathesis we have comparatively but a very brief period for action, and can repose no confidence in aught so dilatory. Nevertheless we are not to transgress the principle, and are to be guided by it in the dietetic portion of our treatment. The patient is to be plentifully supplied with good air, and with a full allowance of nutritious, but not stimulating food. He will be thirsty from loss of blood, and glad to slake his thirst with aqueous fluids. But he ought not to be allowed to do so. These would but add to the serum, and we have too much of that already. As the bleeding proceeds, faintness comes on; and wine, brandy, and cordials, are the usual remedies. These will do but little good in the matter of the fibrin; and by freshly exciting and accelerating the circulation, will destroy any chance of benefit we might have obtained by the approach to syncope favouring coagulation. In terror of such inopportune excitation of the arterial system, other practitioners follow a mode of treatment diametrically the opposite, allowing the patient nothing but the weakest aliment, and that even in starving moderation; forgetting, that with such a run upon their stock of capital, the treasury will soon be wholly empty, unless active measures be adopted to keep up the supply, and if possible, with a more solid and more sterling currency. The system of diet, then, in the protracted cases, we conceive ought to be full and nutritious, yet by no means stimulating. As a prophylactic remedy, the dietetic mode of treatment promises to be of much value, but it is unequal to meet the actual emergency, there being no *time* thereby to amend the deficiency of fibrin.

Can this be done by inducing an *inflammation?* That the quantity of fibrin is invariably increased during active inflammation, has been satisfactorily shown by M. Andral—the increase commencing at once, and being strictly proportional to the advancement and intensity of the inflammation. To this result the existence of inflammatory fever is not essential; it is the local inflammation itself which causes it; yet the inflammatory fever being usually proportionate to the amount and intensity of the local action, will consequently be almost invariably accompanied by, though not causing, this increase of fibrin. And it is important further to observe, that a mere febrile condition, unattended by an inflammatory action, so far from increasing the amount of fibrin, has a precisely opposite effect. In idiopathic fever, for example, the amount of fibrin is invariably found diminished, and the patient prone to hæmorrhage—another strong reason why a stimulating system of treatment, as by wine, brandy, &c., is not to be adopted. An active local inflammation, then, and the less accompanying fever it has the better (actual excitement of the general circulation being manifestly inimical to our object), will *speedily* increase the proportion of fibrin, and thereby promote the formation of coagulum. But *mere* coagulation is not what we desiderate; it is the formation of a firm and dense clot; and it is just this form of slow yet sure coagulation that an inflammation will afford. And this leads us to remark, that even in the emergency of the hæmorrhagic diathesis, when every moment is of importance, we are not to seek for rapid coagulation which is usually loose and porous; but for rather a slow completion of that process, whereby a more solid and efficient clot will be obtained.

Are we then to induce this influence in the site of the hæmorrhage? No. By doing so we should amend the general state of the circulating fluid, but sadly deteriorate the local, increasing the volume of blood, and inducing a tumultuous circulation, in a part which has no power to control it;—an aggravation of the bleeding must inevitably follow. Besides, by wilfully inflaming the part, we should render it intolerant of pressure, which, as we think, is our most trust-worthy item of local management. An irritant applied at some distance from the bleeding-point, however, so as rapidly to excite a superficial inflammation on a comparatively unimportant part, might

not only obtain the desired increase of fibrin in the general mass of blood, but also have a derivative effect on the actual source of the hæmorrhage, and so fulfil a two-fold indication towards its arrest. This plan, therefore, of directly amending the proportion of the fibrin, seems both feasible and safe, and consequently worthy of trial. And, on the principle of revulsion, is it not possible that *dry cupping*, employed at some distance from the bleeding point, might have the effect of at least diminishing the hæmorrhagic flow?

But, turning from such direct interference with the fibrin, have we any means by which, no matter how, *we can promote satisfactory coagulation of the blood*, and thereby use them as hæmostatics? *Acetate of lead with opium*, given internally, has long been famous in this respect, and that not undeservedly. Dr. Elliotson has shown that the lead can be given in heroic doses, and even for a considerable time, without any untoward result, with the simple precaution of keeping the bowels freely open—an indication which we shall find to be otherwise of much importance in the treatment of the hæmorrhagic diathesis. As a general astringent, according to Dr. Christison, "no remedy yet known, equals in efficacy the pillulæ plumbi opiatæ of the Ed. Ph.; each of which contains three grains of the acetate of lead, and half a grain of opium, and of which, from two to six may be given in the course of the day, according to the urgency of the symptoms."

This remedy doubtless has the power of calming the general circulation; probably it increases the tendency of the blood to coagulate; plainly it has a depressing influence on the nervous system, and we know that this "favours coagulation of blood in the vessels; besides, there is good reason to believe that a tonic or astringent effect is exerted on it by the astringents themselves; and thus it justly maintains a claim on our attention as a valuable means of combating the hæmorrhagic diathesis. In the great majority of cases, it can be given freely with perfect safety. Should it be found to disagree, it may be conveniently superseded, at least for a time, by the sulphas aluminæ et potasse, in doses of fifteen or twenty grains or upwards—a powerful, and in all cases safe astringent.

Nauseating remedies will moderate the heart's action, and they seem to have besides a powerful effect in arresting hæmorrhage. That during sickness tendency to firm coagulation of the blood is increased, is a fact well attested by experience. Thus it is probable that bloodletting often succeeds as a hæmostatic; but by the suitable administration of nauseating remedies, the same good effect is obtained, while the valuable fluid is yet saved to the system; and in the case of the disease of which we are now treating, such saving is obviously precious indeed. Cautious and small doses then, of ipecacuan or tartrate of antimony, producing and maintaining nausea, will assist in the hæmostatics, not only by moderating the general circulation, but also by favouring coagulation in the capillaries. But this treatment ought not to be pushed to actual emesis, as has been proposed. All the good effects of the medicine are obtained by an action short of vomiting, and that effort is well known to be by no means a sedative; it shakes the frame to the centre, and often produces powerful reaction, even in those systems which injury or sickness may have reduced almost to the lowest ebb.

But it may be said "the patient gets sick enough from the bleeding alone, and the exhibition of nauseants would consequently, at the best, be but an act of supererogation." True, the patient becomes sick in the progress of the case, *but not at the right time.*

The advantage of skill and experience is not so much to invent remedies, as to know *when* they ought to be administered. By the time nausea has been occasioned by mere loss of blood in this affection, that fluid has lost much of the fibrin in which it was from the first sadly deficient, and cannot now avail itself of the lull in its circulation, to be converted into the solid form. But induce an artificial nausea at an early period, while there is ye-

fibrin and a power of coagulation; if possible, take advantage of that period when the bleeding has as yet but diminished the volume of globules, leaving that of the fibrin in-tact—and then, but not later, we may hope for a happy result;—another reason for *early* as well as energetic practice in the treatment of the hæmorrhagic diathesis. Besides, during the febrile paroxysm which usually attends on the hæmorrhagic crisis, the nauseating treatment will plainly tend to remove this, at the same time that it favours coagulation, and opposes capillary congestion.

In the case of hæmorrhage after tooth extraction, when binding up of the jaws is necessary, efficiently to obtain the all important pressure, a passage for the internal remedies by the mouth is to be contrived, as in fracture of the jaw; and failing that, their exhibition will be by the rectum. And it is very plain, that vomiting, from whatever cause, is, under these circumstances, to be carefully avoided.

If we can diminish the amount of the serous portion of the blood, the fibrin remaining, shall we not thereby assist the blood in its assumption of the solid form? In theory, such a plan promises fairly. A smart dose of elaterium, obtaining a serous discharge from the bowels, might have a most salutary effect—not the worse for having a depressing action on the nervous influence, we having already seen that no coagulation within the vessels is favoured. At a later period, its exhibition would require caution, it being now of importance to oppose and retard exhaustion. But still its exhibition is practicable, by administering support at the same time, adding as it were to one part while we draw from another, just as it has been lately proposed to combine the exhibition of tonics and stimulants with the frequent repetition of tobacco enemata in tetanus. But, leaving theory and coming to facts, we find that the sulphate of soda has on more than one occasion, been found of signal service in the hæmorrhagic diathesis. Dr. Otto, of Philadelphia, and Dr. Hay, Fellow of the Massachusetts Medical Society, are loud in its praises, seeming to regard it almost a specific; but, be it remarked, *only when administered in such doses as to purge actively*. By M. Andral, sulphate of soda acting on the blood is considered the best means of retarding its coagulation, and consequently of obtaining a firm clot when it is ultimately formed. The inflammatory clot is tardy but dense; and so is that of the sulphate of soda. When coagulation is rapid, the clot is loose, has a large proportion of serum entangled as it were in its substance, and expels little or none of it by subsequent contraction; "on the other hand, if the coagulation be slow, the particles of fibrin seem to become more perfectly aggregated, the coagulum is denser at first, and its density is greatly increased by subsequent contraction." That is the kind of coagulation we want—slow, dense, and efficient; in many, if not most of the cases of hæmorrhagic diathesis, we have rapid and loose coagulation without arrest of hæmorrhage. Besides, one of the best antidotes to poisonous effects resulting from the internal exhibition of acetate of lead, is the sulphate of soda; so that this remedy is useful in the treatment of the hæmorrhagic diathesis on three counts. 1. By obtaining serous discharge from the bowels, the mass of blood is indirectly acted on so as to favour solid coagulation; 2d. Suitable coagulation is also promoted by direct admixture of the salt with the blood; and, 3. All bad effects are by it obviated, which might otherwise proceed from lead previously administered. The lead and sulphate of soda must not be given together, however, with a conjunctly remedial object; as the former would be precipitated in an insoluble form. In a case mentioned by Dr. Allan, much benefit was derived from smart purgation by sulphate of magnesia, showing that the *purgative* action is probably not the least important.

II. Let us now turn our attention *to the condition of the capillaries*. We have already stated the probability that the acetate of lead has a directly as-

tringent effect on the capillaries, besides its action on the blood and nervous system. *Opium*, we believe, has a more directly tonic effect on the extreme vessels; and it is by such action that its beneficial effects in gangrena senilis have been attempted to be explained. Besides, its exhibition will have a most salutary influence in quelling that general nervous tumult in the circulation, which is so sure a follower of excessive loss of blood. The happy combination of two such remedies, in the pil. plum. opiat., cannot but be regarded, then, as constituting a most powerful remedy in the hæmorrhagic diathesis; acting directly and favourably on the blood; calming the heart's action, and the general circulation; subduing the nervous influence; and correcting, in no slight degree, the degeneracy of the capillaries themselves.

[*Styptics* will occasionally act beneficially—these are spirits of turpentine, solution of the nitrate of mercury, recommended by Mr. Nasmyth, of Edinburgh, creosote, nitrate of silver, which acts not only by constringing the textures, but also by forming a coagulum of its own by its immediate action on the fluids in contact. The *cautery* is on many accounts an improper remedy in these cases—it may be well enough in ordinary cases as it sears the surface, puckers and twirls up the vascular mouths, and mechanically shuts them by a dense coating of eschar, which adheres firmly to the subjacent textures at every point. But in the hæmorrhagic diathesis "the vessels are unable to pucker and contract, the eschar is comparatively soft and will not adhere." The uselessness of the actual cautery is shown by the several cases recorded. No doubt cases can be referred to where the cautery was successful, but they are not cases of the real hæmorrhagic diathesis.]

On *pressure*, we would mainly rely, as the local treatment adapted to the hæmorrhagic diathesis. Having applied the nitrate of silver gently, so as to obtain its minor effect, and thus, by a temporary cessation of the bleeding, secure a dry bed on which the compress is to be laid, we lodge a portion of lint, accurately adapted to the hæmorrhagic surface, and over this another and another, increasing in size, so as to make a graduated compress, whereby pressure can be applied with power, and at the same time with great accuracy. For we believe that when pressure does fail, it is because it has been inaccurately applied, *i. e.*, not duly directed on the bleeding point, either by blood becoming interposed, or in consequence of original mal-adjustment of the apparatus. A dry compress alone is efficient; and should we find the lint becoming saturated with blood, the oozing still continuing through the dressings, we must at once remove all, and re-adjust them with still greater attention to nicety of application. Supposing the bleeding surface to be situated on a leg or arm, the limb below the compressed point must be uniformly supported by a bandage, otherwise congestion followed by ecchymosis as well as œdema, will most probably result. But while the pressure is uniform and accurate, it must not be severe; for one of the characteristics of the disease is, that pressure is not easily borne; it is apt to occasion "great distress, pain, throbbing, and irritability." Severe pressure, pertinaciously employed, would produce inflammation, ulceration, sloughing, one or all, and of course aggravate the malady. But if the compression be begun moderately, and regulated by prudence, more especially if it have been both accurately and *early* applied—before the part has become inflamed and swollen by other less appropriate and effectual remedies—such untoward consequences need not be apprehended. On the general surface, compression can be managed by an ordinary bandage regulating and maintaining the compress. In the case of the alveolus, a little peculiarity of dressing is required. Sponging out the cavity, a pointed piece of nitrate of silver is passed to its bottom, in contact at the same time if possible with its sides, and held there momentarily. It is quickly withdrawn;

and while the bed it leaves is still dry, this is rapidly and accurately filled by a thin strip or strips of lint, pushed carefully and firmly down by a probe, director, or other implement suitable for the purpose. Over the top of the thus tightly filled alveolus, is placed a dossil of dry lint; over this a wedge of cork, with a similar one on the opposite side, their thick ends looking forwards; the jaws are then firmly shut, and retained so immoveably, by turns of a bandage, in the same way as for fractured jaw, a central interspace being left for the giving of food and medicine, and for the free circulation of cool air in the mouth. The pressure proving successful, the dressing will of course be left undisturbed for a considerable period. In leech bites, mere punctures, superficial wounds in the face, &c., compression will be most conveniently as well as effectually obtained, by firm application of the twisted suture.

[Cold has been recommended as a remedy; but when we remember that the part is already vitally weak, and that the primary effect of cold will depress that vitality, we must not depend upon it.

Delegation of the principal artery leading to the part, is obviously hopeless. *Transfusion*, however, may prove a much more valuable remedy; as the blood of the patient is lamentably deficient in both globules and fibrin, especially the latter, and if the blood of a healthy person can be substituted, we cannot but see that it is likely to be an excellent remedy. If we were to make a selection of remedies we should do as follows:]

1. *As to internal remedies.* We should administer the acetate of lead and opium, with cautious doses of antimony or ipecacuan, so as to induce and maintain nausea, short of emesis; and sulphate of soda would occasionally be exhibited in smart purgative doses. At first, we would give nothing in the shape of food or drink, being wishful to promote the state of nausea and depression, as favourable to the hemostatic result. But should the bleeding continue, our first and strongest effort having failed, we would then support the strength and circulation by nutriment, frequently given in small quantities, as soup, animal jelly, &c., avoiding aqueous fluids, as well as wine, brandy, and all other stimulants, unless driven to the latter at the eleventh hour and in despair.

2. *Of the local remedies*, we would hold accurate yet moderate pressure on the bleeding point, with uniform support of the lower parts when necessary, to be by far the most important; at the same time favouring as much as possible the application of atmospheric influence, and never trusting in a soaked and oozing compress, but instantly removing it to make way for a more accurate re-adjustment. Experience is yet wanting to attest the propriety of irritants and dry-cupping, applied at a safe yet convenient distance; the one with an inflammatory, the other with a simply revulsive object.

3. Failing in the above treatment, we would unhesitatingly have recourse to transfusion, at a period sufficiently early to afford a fair prospect of success.

London & Edin. Monthly Journal of Med. Sc., July, 1842, *p.* 567—590.

[Some very interesting cases of bleeding after extraction of a tooth have lately been related in the Journals, several of which have terminated fatally. Mr. Roberts, of Edinburgh, relates a case in which a friend of his completely succeeded in stopping the hæmorrhage by filling the bleeding cavity with plaster of Paris. From the plastic nature of this substance when moistened, we may conceive how readily and completely it may be pressed into every part of the bleeding cavity, and by its rapid consolidation how it may form the most perfect plug. See *Medical Gazette*, *May* 6, 1842, *p.* 269.]

Dr. J. H. Bennet, in a note to Dr. Cormack, states, that a very important change in the blood, in hæmorrhagic diathesis, consists in the structural alter-

ation of the corpuscles. On one occasion, he examined the blood of a patient labouring under purpura hæmorrhagica, and found that "the larger number of corpuscles were changed in form. Some were of an angular or oblong shape, others serrated or notched at their edges, whilst numerous small shreds or granules were floating loose amongst them. In short, the blood corpuscles were broken down, and presented an appearance similar to what he had seen them do in some specimens of putrid blood." Dr. Bennett further says, "Mr. Miller, in his paper, and Dr. Hay in the discussion which followed it, alluded to the well-known fact, of the benefit derived from purgative doses of sulphate of soda. Now every histologist is aware, that, with the exception of white of egg, there is no fluid which tends to preserve the blood-globule in its normal state so well as a weak solution of the sulphate of soda. Mr. Miller conceives that it acts on the blood by producing coagulation; and, I would also add, by its tendency to preserve the corpuscles in a normal state, and thus prevent the morbid structural alterations which they undergo in this disease.

Ibid. Aug., 1842, *p.* 787.

47.—ON MR. STAFFORD'S TREATMENT OF STRICTURE

By Wm. Coulson, Esq., Surgeon to the Magdalen Hospital, &c.

Cases of stricture occasionally occur, which the ordinary plans of treatment fail to relieve or cure. These cases may be arranged under three or more classes: the first, in which there is simple stricture of the urethra, so complete, however, as sometimes to cause retention of urine; the second, in which two, three, or more inches of the urethra, are thickened and contracted, and often complicated with fistulous openings in the perinæum; the third, in which one or more bad strictures exist in an extremely irritable urethra, which is frequently combined with an irritable state of the whole system.

[Three very interesting cases are produced to elucidate the above varieties, and to show that, after every other method had failed, Mr. Stafford's mode of dividing the part with his instrument was successful.

The first case was a Mr. R. æt. 50, a wine merchant, who had had the disease twenty years, but who suffered more especially in consequence of it during the last few years. Mr. Grove, his family surgeon, first attempted its cure, and so far accomplished his purpose that the urine was passed with comparative ease; but in consequence of improper living the stricture again increased to an alarming extent, when Mr. Coulson was consulted and made use of the caustic bougie with advantage. But the disease again recurred, and it was necessary to puncture the bladder through the rectum. During the existence of the canula in the orifice (which was for five days), the stricture was again attempted to be relieved by the armed bougie, but in vain—the accumulation of urine again took place, and Mr. Stafford was then called upon to cut through the part in the following way:]

An armed catheter, No. 8, was passed down to the stricture, the lancetted stilette pushed forward twice, the stricture perforated, and a No. 4 silver catheter immediately introduced with perfect ease after the withdrawal of the armed catheter. Not a drop of blood was lost, and the patient was scarcely conscious of pain from the two incisions. The catheter was retained in the bladder two days, and after this the water passed in a good stream. I now passed a catheter daily, gradually increasing the size to No. 9, when Mr. R. considered the cure complete. As a precautionary measure he occasionally introduces a catheter for himself.

[In the next case the stricture was situated about three inches down the urethra, through which no instrument could be passed. There were three openings in the perinæum through which the greater part of the urine passed, and the whole perinæum presented a hard cartilaginous mass. The armed bougie was tried for five weeks without success, and Mr. Stafford's plan was then adopted.]

No. 6 lancetted stilette was introduced every other day until the urethra was rendered pervious to the extent of five inches. I then found it necessary to employ a small straight urethral perforator, as the calibre of the curved instrument was too large for the perforation which the stilette made. I succeeded in passing the straight perforator to the extent of seven inches, and then divided the stricture; after which I passed No. 4 wax bougie easily into the bladder. Since this time the urethra has been gradually dilated by means of the wax bougie, and No. 6 can be passed with ease.

This man had suffered from retention of urine on three occasions, on one of which the stricture had been divided by an opening made in the perinæum. The opening in the perinæum, however, never closed; the urethra had more the feel of cartilage than of the natural structure, and was contracted to the extent of several inches. Mr. Stafford has alluded to this state of the urethra at page 66 of the third edition of his work, where he says:—"In some cases the stricture has occupied so great a length of the canal, and has been so extremely indurated, resembling cartilage more than any other structure, that I have been obliged to employ the instrument at several different times. When such has been the case, I have found, after making an incision into the stricture, that by keeping it open by a bougie, the hardened structure has become absorbed as far as the puncture has gone; and then, as fast as the contraction has been opened, the surrounding diseased structure has disappeared, and a healthy membrane, analagous to that of the urethra, has formed. Hence, when the whole has been permeated, the stricture, whatever length it may have been, has been nearly cured; and it has only required two or three introductions of the steel dilator to restore the canal to its natural size and structure." Excepting on the last occasion of dividing the stricture, the patient felt little or no inconvenience after the operation; and during the whole of the time he followed his usual occupation. The operations in this case were witnessed by Mr. Hocking, surgeon, of Penzance, and my pupil, Mr. Markwick.

[In the next case the smallest sized bougie could not be passed and the lancetted stilette was immediately resorted to, and the patient left London being able to pass No. 6 silver catheter for himself. Mr. Coulson then says:]

My object in publishing these cases is to assist in removing the feeling which too generally prevails against Mr. Stafford's treatment in cases of impermeable stricture; for nearly all who have written on the complaint more or less condemn the use of his instrument. In alluding to it, Sir Benjamin Brodie says:—"Mr. Stafford has invented an ingenious machine, which is intended to divide a stricture by means of a cutting instrument. If any cases occur in which this method may be useful, they are undoubtedly very few in number; and great caution must be required to avoid making false passages, which might be followed by effusion of urine and purulent deposits." These were the fears which unfortunately influenced me in rejecting for years this most valuable instrument. I say unfortunately, for I now recal to my recollection numerous cases in which I failed to afford relief for want of this or a similar instrument. I believe that there is much less danger of making a false passage with the lancetted stilette, carefully directed against an impermeable stricture, than in the use of the common catheter or sound.

As to the effusion of urine and purulent deposits, how rarely do they occur, in cases where great violence has been used, and lesion of structure has taken place in the attempts to introduce instruments into the bladder. In the use of Mr. Stafford's instrument, admitting that the division is not made in the direction of the canal, it is certain to be made *anterior* to the obstruction, and consequently not likely to be attended with infiltration of urine. In lieu of Mr. Stafford's operation, Sir Benjamin Brodie proposes the following modification, which he adopted in a patient, viz.:—"I then make an incision in the perineum, dilating the fistulous sinus, and laying open the membranous part of the urethra as far forward as the stricture, the exact situation of which was marked by the bougie. The bougie was then withdrawn; an instrument was then introduced in its place, consisting of a straight silver tube, closed at its extremity, except a narrow slit, through which a small lancet could be made to project, by pressing on a stilt which projected on the handle of the instrument; the round extremity of the tube being pressed against the anterior part of the left hand, introduced through the wound in the perineum and urethra to its posterior surface. The pressure of the instrument being distinctly communicated to the finger through the substance of the stricture, the lancet was protruded, and the stricture was divided. A silver catheter was then easily introduced through the urethra and divided stricture into the bladder, and allowed to remain there. The urine, of course, flowed through the catheter. At the end of two days the silver catheter was removed, and replaced by one of elastic gum. The wound in the perinæum gradually healed, and the patient ultimately recovered, making water in a full stream, and being able to introduce a sound of a full size into the bladder, so as to prevent a recurrence of the contraction."

Now the following is Mr. Stafford's plan. The single lancetted stilette, or urethral perforator, is passed down to the stricture, the exact distance of which from the extremity of the urethra is first ascertained. When the point of the instrument is arrived at, and rests upon the contraction (which is known by means of its graduation), and is in an exact line with the natural course of the canal, the instrument is held and maintained in that position by the left hand, the fore-finger of which being passed through the ring on the under part of its handle, the thumb of the right hand is passed through the ring on the handle of the stilette. The stilette is then pressed gently and gradually forward, when the lancet is protruded out at its point, and is thus made to incise the stricture. The lancet must be immediately drawn back, or allowed to retire into the sheath, by the action of the spring.

In the operation which is proposed by Sir Benjamin Brodie, as a modification of Mr. Stafford's, and as a substitute for it, an external wound is made in the perinæum for the purpose of preventing infiltration of urine, and next for the purpose of guiding the lancet.

I have already alluded to the little chance of infiltration of urine, and I know of no case in which it has occurred. As to guiding the lancet, I really think the instrument may be as safely guided when passed down the urethra, and held properly against the stricture, as by the finger introduced through the wound in the perinæum. The principle of the operation is Mr. Stafford's; the modification is the opening in the perinæum, which complicates the operation, inflicts additional pain, and prevents the patient, for a time at least, from following his usual avocations.

Mr. Liston, while speaking of Mr. Stafford's instrument, observes, "Here, again, is another contrivance of the kind, which is called a *lancetted stilette*. It is a catheter with a lancet, which can be made to protrude at its point. It is a very dangerous tool. Indeed, I do not know who would choose to have this introduced into his urethra. It must be a highly dangerous proceeding in the hands of any one, however dexterous he may be." I hope, however, that Mr. Liston's opinion has undergone a change; for I have been inform-

ed by a gentleman who witnessed the operation last year in the North London Hospital, that Mr. L. employed Mr. Stafford's instrument; and the same gentleman informs me that the patient is now quite well.

I will not, however, quote additional authorities to shew the feeling which exists, or has existed, against this plan of treatment: I only beg my professional brethren to put Mr. Stafford's instrument to the test of experience. I have this week operated on a man whose urethra was quite as much contracted as in the second case which I have related, and who assured me that it always took him five minutes to void his urine, and that the straining was so great as frequently to cause bleeding at the nose. By means of the straight urethral perforator, used three times, I was enabled to get an instrument into the bladder, and the patient to void his urine with comparative ease.

I am not wishing to urge this plan of treatment in cases where there is any passage, however small, through the stricture; but in every case where the contraction is so great as not to admit of the introduction of an instrument, Mr. Stafford's plan, in my opinion, offers a safe, speedy, and effectual mode of cure.

Medical Gazette, July 15. 1842, *p.* 599.

48.—ON THE TOPICAL APPLICATION OF IODINE AND ITS COMPOUNDS.

By James J. Ross, M.D., Cambusmore, Sutherlandshire.

[The following observations on the topical application of iodine, although not possessing any particular claims to novelty, are so truly practical and useful that we shall abridge them as little as possible. No attempts at systematical arrangement are made: the principal preparations and forms of iodine are selected, and their efficacy, as topical agents in various diseases, detailed.]

Aqueous Solutions of Iodine.—There is a form of ulcer which we sometimes meet with, on the lower extremities of elderly persons (particularly women), where the whole limb is one hardened, condensed, discoloured mass, as if skin, cellular tissue, and even the muscular texture, were matted together by solid œdema. The ulcer is usually of great superficial extent, but not deep; its surface is hard, pale red, and without the least appearance of granulations; frequently, too, there is hypertrophy of the tibia:—for most of such cases are seen on the anterior and inner surface of the leg. Such ulcers, it is hardly possible to heal; but sometimes we shall succeed in diminishing their size greatly by the use of Lugol's stimulating washes (iodin. gr. ij, iij, or iv; iod. potassii, gr. iv, vi, or viij to water ℔i.), especially if we have previously used blisters over the sore, according to the plan of Mr. Syme.

Iodine may farther be used as a rubefacient or caustic, according to the formulas given by Lugol. The rubefacient consists of iodin. ʒiv, iod. potassii, ʒi, aquæ, ʒvi; while the caustic solution is formed of iodin. ʒi. iod. potass. ʒi, aquæ, ʒij. From the quantity of the material required for these solutions, it is not likely they will ever come into extensive use, especially as there are other substances, which answer the purpose equally well, if not better.

Tincture of Iodine.—The tincture of iodine admits of far more extensive application. It consists of iodine ℈ij to alcohol ʒi. We shall proceed to consider some of its uses as a topical agent.

Some writers have lauded the local application of the tincture of iodine in erysipelas, as if its use were really a specific for the disease, and rendered all other treatment superfluous. I have used it in several cases, but in any instance of pure phlegmonous erysipelas, I have never seen it equal to the sub-

duction of the disease, however early employed; and I suspect that those who delay the usual treatment by incisions, &c., in order to test its efficacy, will have reason, perhaps when too late, to repent their having done so. In slight erythema it certainly is of advantage—allaying the burning heat of the part, producing a comfortable feeling, causing subsidence of any swelling from effusion, and hastening the superficial desquamation that commonly takes place: but, as already stated, that it has any power over the morbid action of genuine erysipelas, I cannot testify: and I should farther be afraid, that those who venture to tamper and trifle with it here, will cause no small injury to their own reputations, and their patients' lives. In one case of œdematous erysipelas, however, in an old cachectic subject, I used the tincture of iodine locally, with the most marked advantage, together with regular bandaging. The limb daily diminished in size, the uneasy feeling of distension was soon relieved, and in a short time a perfect cure followed—constitutional treatment being, of course, pursued at the same time.

The mode of applying the remedy is to brush it freely, by means of a camel's hair pencil, over the affected surface every day, till it become of a dark brown colour, and some smarting heat be experienced by the patient. It very rapidly dries, and nothing further is required. It is succeeded by a rather pleasant feeling of warmth, which lasts for some time, and desquamation of the cuticle takes place in a day or two. If used too strong in proportion to the delicacy of the patient's skin, small vesications may be produced, which prove disagreeable, but are of no farther consequence.

Another case, in which the local use of the tincture of iodine is of signal efficacy, is that of ulcers of the tonsils and fauces—specific or non-specific. I have seen the ugliest sores in this situation put on quite a healthy appearance in a few days under its use. It is highly recommended by Ricord, and certainly I do not know any thing equal to it in such cases. It is best used in the form of gargle; thus:

℞. Tinct. iodin., ʒi—ij; Tinct. opii, ʒi; Aquæ, ℥vj. *m.*

Fiat. Garg. ter quaterve in dies utenda.

It may be made weaker or stronger, with or without the laudanum. It requires to be well shaken when used.

The first case in which I used it, was one of irregular phagedenic ulceration near the base of the uvula, with patches of a white exudation on the back of the pharynx; the voice, respiration, and deglutition being all affected. The general aspect of the patient was cachectic, but he denied ever having had syphilis. The above gargle was ordered. An improvement was observable on the third day of its use, which went on steadily and rapidly to a perfect cure. In another bad case of syphilis, with sloughing irregular ulcers on the velum and fauces, the local use of the same gargle (made first with ʒi to ℥vj and afterwards increased to ʒiss), arrested the phagedenic ulceration, and reduced it to a healing sore, which soon cicatrised. Patients do not complain of the gargle being disagreeable.

I may further mention a case of perforating ulcer of the palate, in which the undiluted tincture of iodine was used as an accessory remedial agent with good effect. The patient was a girl, aged 22; the opening was of the size of a goose quill in the soft palate, a little to the left of the mesial line, just behind the edge of the osseous palatal arch; no bone could be detected by the probe; her speech was considerably affected, and a portion of every thing she attempted to swallow escaped by the nose. There was no reason to suspect syphilitic affection. On the 19th March the opening was touched with a red-hot wire; on the 23d the eschar came away, and the raw surface was now touched every second day with tincture of iodine. By the 13th April the opening had become much less; she spoke better and could also swal-

low better; very little escaping by the nose, and that only of any thin liquid, such as water. The cautery was re-applied: on the 16th April the tincture of iodine was resumed as before; on the 25th the opening had still further diminished, and on the 13th May it was closed so that nothing came through it; the powers of speech and deglutition being also quite restored. In this case, after a raw surface had been produced by the separation of the eschar, consequent upon the application of the cautery, the tincture of iodine seemed powerfully to excite the granulating or reparative action. It might also, perhaps, be used in a similar manner in fistulous openings in other situations.

The tincture of iodine has further been used by pencilling, in various swellings, such as enlarged glands, buboes, nodes, &c. I have repeatedly, for a length of time, pencilled the skin over small indolent strumous glands in the neck, but I cannot say that ever I was sensible of any advantage from so doing. In chronic bubo, however, the same remedy, by producing a series of cuticular desquamations, has appeared to some to promote the resolution of the gland. In similar cases, Ricord uses compresses soaked in a dilute tincture of iodine (Tinct. iodin. ʒi; Aq. distill. ʒij), which Mr. Langston Parker says "are very useful in the resolution of the chronic or indolent bubo."

There is a plan of treatment in cases where the centre of a large mass of indurated swollen glands suppurates, which I have often found very successful since I first saw it practised by Dr. Nicol of Inverness. A small lancet puncture is made in the central abscess, so as to discharge the contained matter; this opening is kept patent by the occasional introduction of a pointed piece of lunar caustic, and the whole surface of the surrounding hardened mass pencilled freely every day with the tincture of iodine.

With regard to the superiority of the tincture of iodine as an injection in hydrocele, over most others, nothing need be said, as I believe it is now universally used, and its efficacy testified on all hands. For this purpose ʒij may be added to ʒvj of lukewarm water; the mixture should be made just at the time of using it.

The next instance we shall bring forward of the external use of tincture of iodine is in porrigo, or, more generally speaking, ringworm of the scalp, comprising all those affections, described as tinea, porrigo, eczema, impetigo, &c. The diagnosis of these various forms, which run one into another, is often exceedingly doubtful, and, what is of more consequence, their cure is often difficult, and frequently exhausts the patience both of patient and surgeon. Hundreds of applications have been used in the treatment of ringworm, and their very number proclaims their inefficiency; while in many cases, there can be no doubt, that the cure ultimately effected, ought rather to be referred to the natural dying-out, as it were, of the disease in course of time, than to the particular remedy in use at the moment. In such circumstances, then, we are all much indebted to Dr. Graves, who has laid down certainly the most successful plan of treatment I have yet had an opportunity of trying. He recommends as a precautionary measure, that, if the disease has been of long standing, an issue should be inserted in the arm, before attempting its cure. He condemns shaving the head, for it adds to the irritation of the skin, and the scalp can be sufficiently exposed by cutting the hair as closely as possible with a sharp scissors. The next object is to remove the concreted scales, which lie over and conceal the diseased skin: this is to be accomplished by diligent ablution, without using any irritating degree of friction. We must next have recourse to some application, which will destroy the morbid secreting surface, or those vegetable fungi, which, according to some late observers, constitute the true pathology of the disease. For this purpose, Dr. Graves recommends either the tincture of iodine, or a solution of lunar caustic, or blue stone, 10, 15, or 20 grains to the ounce, as the case may require. Since reading Dr. Graves' paper, I have in several instan-

cess used the tincture of iodine, and have since been far more successful than before. "As to the application of this solution, or the tincture," continues Dr. G., "it will not do to apply it, as is generally done, with a camel's hair brush, *for it must be strongly rubbed into each spot*, for which purpose a small bit of sponge, covered with fine linen, and tied to the end of a quill or slender stick, should be employed. When a large portion of the scalp is affected, it will require some perseverance to apply the lotion, or tincture, in an effectual manner. An application of this nature, when effectually done, must not be repeated oftener than once a week. Immediately after it, the scalp must be covered with a spermaceti dressing, and the spermaceti must be renewed at least four times daily, so as to keep the head constantly moistened with it. The head is not to be washed for three days after the application of the caustic, or the tincture of iodine, but then it may be well, but very gently, washed with yellow soap and water twice a day; taking care to cover, as before, with a spermaceti dressing after each washing." The Doctor adds, "when the above precautions have been taken, the cure will advance rapidly, and each succeeding application of the caustic solution, or of the tincture, may be less severe." I have been thus particular in transcribing Dr. Graves' directions, as there is no disease more troublesome to the practitioner, and as, from experience, I can bear testimony to the efficacy of his mode of treatment, as above explained. The surgeon, when applying the iodine or caustic, should have his hands protected by gloves.

Another case, in which the local use of the tincture of iodine is very serviceable, is that of fluid effusion in joints. It is astonishing how rapidly it will sometimes cause hydrops articuli to disappear from the knee. Some have recourse to it in such cases at once, while symptoms of acute inflammation are still present; but, as a general rule, it will be advisable first to subdue these by the usual means; and then the tincture should be freely brushed over the whole surface of the joint every day. Its application should be preceded by friction with a flannel cloth, and after the tincture dries, a bandage may be applied, so as to make gentle pressure. I have seen Mr. Lizars use it in the same way, with excellent effect in dispersing copious effusion in the knee-joint, consequent on fracture of the patella.

Iodine Ointment.—The ointment of iodine itself is seldom used: and any remarks upon it will come better under the head of the hydriodate of potassa. I will only mention here, that a weak form of it is often of great use in removing bursal effusions or ganglionic swellings, applied as a dressing to the cutaneous surface, previously rendered raw by a blister. The common strength of the ointment is ℈i ℥i of axunge.

Such are all the remarks we have to make on the topical application of iodine in its elementary form. We shall next proceed to the iodide of potassium, or hydriodate of potassa.

Iodide of Potassium.—It will be seen above, that this salt enters into the composition of the aqueous solutions of iodine; indeed, it is necessary to keep the iodine in solution, as it is very insoluble in water. But the most common form for its external use is that of ointment; and one of the best formulæ for this purpose is the officinal one in the last Ed. Ph., viz. iodine ℥j, iodide of potassium ℥ij, lard ℥iv. I would here remark as to all ointments of hydriodate of potassa, that, as often procured from apothecaries, they are unfit for use, from their containing a quantity of gritty particles of the salt; therefore the recommendation of the London College seems important, which orders the iodide to be first triturated with a little spirit, before adding the lard. Care should be taken, too, that the lard be fresh. When the iodide of potassium is used alone, the ointment may vary in strength from ℥ss to ℥iss, to ℥i of axunge.

1. The ointment has been very extensively used in cases of enlarged strumous glands. A portion is rubbed over the skin of the part every morning

and evening, for ten or fifteen minutes each time. The strength of the ointment, and the degree of friction, must be regulated by the circumstances of each case. Where there is redness of skin, or much tenderness to the touch, it should never be employed; and if, during its use, these should appear, it must be intermitted, till, by warm fomentations and soothing measures, they be overcome. Cases of such diseased glands are common enough, and trials of its efficacy are therefore easily made by all. Some have lauded it to the skies, while by others it has been unjustly depreciated. It is probable, that as usual, truth lies "in mediis rebus." That it has some power in exciting absorption of hardened glandular masses—that it will, as it were, dissolve large condensed tumours of this kind, and break them up into separate nuclei—cannot be denied; but its power of completely dispersing these nuclei, I am not disposed to estimate very highly. I have almost invariably been disappointed with its effects over the enlarged glands of strumous patients; and I cannot help believing, that much more of the result, when this has been favourable, is to be attributed to the iodic preparations, which are generally exhibited by the mouth at the same time, than to the local medication by the ointment in question. I am well aware that this opinion is contrary to that of many others; still many will coincide with it; and, at any rate, I give it as the result of my own experience.

2. The ointment of hydriodate of potassa has been used to excite the absorption of all kinds of tumours. It is an excellent application to those chronic indurations which remain after any local attack of inflammation, and that thickening of parts which is left after the healing of an abscess. It may be serviceable in hernia humoralis, but perhaps not so much so, as the camphorated mercurial ointment. In the case of those tumours which are usually subjected to the knife, little can be expected from it, though its use, with occasional leeching, may be first employed. This mode of treatment will sometimes cause the disappearance of those small, moveable, painless tumours, which are often seen in the mammæ of young females. In tumours of internal organs, as the liver, ovary, &c., the Edinburgh ointment is one of the best means of local treatment we have, alternated with leeching and blistering. In one case of enormously enlarged spleen, occurring in a boy aged five and a half years, the hyd. potass. ointment was of signal efficacy in reducing its size; but abdominal effusion took place, and the patient sank. However, by external examination, it could be discovered that the spleen, which had at first nearly filled the left side of the abdomen, extending from below the ribs forwards to the mesial line, backwards to the lumbar region, and downwards to the iliac region, had become so diminished, that ultimately, at the period of death, it felt no larger than a doubled fist. Internal treatment was of course resorted to at the same time; but the reduction of size became much more marked, and proceeded much more rapidly, subsequent to commencing the ointment.

The same application may also be used in ovarian disease, in conjunction with other means; but I cannot testify to its efficacy, as such cases too often defy all our remedial agents.

3. The iodide of potassium has been used externally in almost all cutaneous diseases. From some experiments lately made with regard to its destructive power over the itch insect, it has been recommended for the cure of scabies. M. Schedel states, that the speediest cure of this complaint is effected by an ointment containing 3ss to ℥i of axunge.

Dr. A. T. Thomson recommends an ointment composed of hyd. potass. 3iss, to axunge ℥iss, with tinct. opii 3i, in lepra: this, conjoined with appropriate internal treatment, has a very good effect; but, from a comparative trial, I think it inferior to another ointment recommended by the same author, viz.,

℞ Calomelanos 3i; Unguent. Picis 3iv; Unguent Cetacei 3i. m.

Either of these cannot, of course, be held up as capable of curing lepra; but, from cases treated with and without their aid, I think that they decidedly hasten that desirable result.

I have tried the ointment of this same substance often in porrigo, but cannot report favourably of its results; at all events, it by no means equals Dr. Graves' treatment by the tincture of iodine, already detailed.

We shall next take up the iodide of sulphur.

Iodide of Sulphur.—1. This substance has been much vaunted of late for the cure of porrigo. Dr. W. J. Erasmus Wilson recommends the head in such cases, after ablution with warm water, to be rubbed gently, twice a-day, with the following:—

℞ Iodid. Sulph. ℥ss; Ol. Olivar. ʒi.

This salt is also recommended by a reviewer in *Johnson's Journal* (Jan. 1839, p. 156), as beneficial, particularly in porrigo decalvans, made into an ointment with eighteen or twenty parts of lard, and rubbed on very gently night and morning. Dr. Davidson of Glasgow has also made a report of his experience with regard to it in a late number of this Journal.* He uses it from ℈i to ℈ii, to ʒi of lard, applied generally once, in some cases twice a-day, after shaving the head. He states it to be the most efficacious of all the external remedies he has tried. A writer in *Johnson's Review* for Jan. 1843, p. 268, noticing Dr. Davidson's report, also testifies to its merits, from his own observation for the last two or three years; he uses a much stronger ointment, ʒi of the iodide to ℥vii of lard, and he has found it, on the whole, more serviceable than any other application. I have used an ointment of it, ℈i to ʒi in a few cases, as well as Dr. Wilson's oily formula, but not with the good effects represented above. However, my experience of it has been limited, as just stated, to a few cases, and, therefore, I have no data on which to found an opinion of its efficacy; and farther, since I became aware of Dr. Graves' treatment by the tincture of iodine, I have seldom had occasion to have recourse to any other.

2. Dr. Davidson, in the same report, states his experience of its use in lepra and psoriasis. "The iodide of sulphur," he says, "does not seem to have so much power over lepra and psoriasis as over porrigo, although, in his experience, it has succeeded more frequently than any other agent he has tried, with the exception of blistering by cantharides."

3. I used the iodide of sulphur very successfully in a bad case of sycosis menti. After soothing the irritation by extracting the hairs from the pustules, by poultices, prussic acid lotions, and warm poppy-head fomentations, an ointment of gr. xv to the ounce was used by gentle friction morning and evening. In ten days the tuberculated indurations covering the chin were much smaller, and ultimately a complete cure was effected.

Iodide of Mercury.—1. An ointment of iodid. hydrarg. ℈i to ʒiss of lard is extremely serviceable in various syphilitic ulcers, particularly those indolent greyish regular sores, which are seen on the arms and legs of venereal patients, and those which are left on the separation of the concreted scurvy cutaneous tubercles, which are met with on the face in bad cases. The above ointment is one of the most effectual applications for such sores that I have seen used. It is applied in the usual manner—spread on lint.

2. An ointment of this substance may be used, like the other preparations of iodine, with the view of causing the absorption of various tumours. Ricord uses it in this way for chronic indolent bubo.

Iodide of Lead.—An ointment of this salt—ʒi to ʒi of axunge—may sometimes be of service in various strumous sores. It has also been used by fric-

* See Retrospect No. V., Art. 53.

tion against different tumours, and to excite absorption generally. But I am unable to say anything of its efficacy from personal observation.

Iodide of Zinc.—The first notice I saw of the medical use of this compound was in the review of Dr. Cogswill's Essay on Iodine, in *Johnson's Journal* (Jan. 1839, p. 118). It is there stated, "During the two last years we have been in the habit of employing a strong solution of the iodide of zinc, as an application to the tonsillary glands, when affected with chronic enlargement, and we can recommend it to our readers as the best local remedy we know for that most obstinate complaint." To this statement I fully subscribe. In those cases of hypertrophied tonsils where I have used it, the diminution in their size was most marked and speedily produced. In two patients in whom these glands were so much enlarged as almost to fill up the isthmus of the fauces, and interfere materially with deglutition, they were quickly reduced to nearly their natural size, and gave no farther inconvenience. A solution may be made of 10, 15, or 30 grains to the ounce of water, and applied to the tonsils daily, by a piece of sponge tied to a quill or thin piece of wood. After using this for some time, I employ the substance itself, undiluted; a little of it is exposed to the air till it deliquesces, and then applied in this state to the tonsil, by means of a camels-hair brush. This is a much more effectual plan than Dr. Cusack's mode of applying the nit. argenti point by point; indeed, it is superior to every local application I know of being used in such cases, always, of course, excepting the knife.

The last preparation of iodine which we mean to notice is one very little known—the iodide of arsenic.

Iodide of Arsenic.—The first time I had an opportunity of seeing this substance used as a local application, was in a case of lupus, extensively affecting the nose and upper lip. It was ordered by Dr. J. J. Nicol, of Inverness, and with excellent effect. Three grains were made into an ointment with ℥i of lard, and a portion applied daily to the sore, spread on lint. The surface soon became of a dark iron-grey colour; in fact, sloughed and formed an eschar. When this slough came away, it left below a healthy sore, which soon healed under the black wash. During the progress of the case, one or two spots showed signs of progressive ulceration, but by a timely application of the same ointment, their action was changed in the same way, and at last the whole affected surface cicatrized.

2. Another instance where this ointment is of a very great importance, as an escharotic, as in the case of thickened spongy softened bone, where an ulcer exists over the diseased part, and covers it with large vascular granulations, which, in such cases, grow very rapidly. Now here it is often an object to remove these granulations, in order to treat the affection of the bone; but as the patients are usually scrofulous, debilitated, young subjects, the loss of blood attending shaving off these by the knife cannot well be borne, and cannot fail of being injurious both to the local action of the part affected, and to the general energies of the constitution. By the use of the ointment of iodide of arsenic (gr. iij to ℥i), their removal may be thoroughly and safely effected. It is applied like common dressing, twice a day, till the surface becomes dark-coloured and dry; a thick cake is formed, which begins to rise all round the edge; when this takes place, poultices may be applied till the whole slough is thrown off, or the loosened and raised portions of its circumference may be clipped off with scissors. The ointment gives no pain, and its action extends pretty deep. If the first slough does not expose the bone, a new application must be made.

3. I have no doubt that a weaker ointment might be used as a stimulant in ordinary ulcers. No fears need be entertained from any idea of the arsenic being absorbed.

London and Edin. Monthly Jour. of Med. Science, Sept. 1842, *p.* 792.

49.—TREATMENT OF SYPHILIS BY TARTARIZED ANTIMONY.

By Alfred Sell, Esq., F.R.S., Surgeon to the General Dispensary, Aldersgate Street; to the Bank of England, &c.

The employment of tartarized antimony for the cure of syphilis, in the peculiar way in which I now recommend it, occurred to my mind from noticing the effects of that potent remedy in removing various other diseases. The effect of tartarized antimony upon the system is rapid, and is very different when administered in different ways. If given in large doses it produces great effect upon the stomach, irritating that organ, exciting it to vomiting, and from its action thereon, reacting upon the brain and nervous system. This mode of administration is very well where we desire to cause syncope for the purpose of reducing a dislocation, but this kind of action is precisely the one which we have to avoid when the remedy is given for the cure of syphilis. In this latter case, we give very small doses frequently repeated, so as to charge the system with the remedy, which then appears to irritate the capillary system and incite it to action: the whole excretory apparatus of the entire body being then irritated in the same way as the stomach in the former case, strives to throw off the new agent, and with it practically we have reason to believe that the syphilitic poison is ejected.

As a general rule, most patients labouring under syphilis, except, indeed, it be a sloughing phagedena, violent inflammation, or some such analogous case, no matter what form or duration, primary or secondary, provided the party be otherwise robust, or at any rate, not in very ill health, will be benefited by the antimonial treatment. The medical man begins, if necessary, by ordering an aperient of colocynth, jalap, black draught, or similar purgative, and then directs the patient to take from 20 to 60 drops (30 medium) of antomonial wine, or the solution of antimony, every two or three hours regularly, and in every case where pus or a puriform discharge exists, use at the same time a lotion of chloride of soda, the strength of which should be regulated to the sensitiveness and delicacy of the part of the body affected.

This treatment I have seen to be efficacious in arresting the progress of the disease at the very commencement, when nothing appeared but four or five little red spots, which produce consequences, when left to their own course, that every surgeon well knows. In these cases the antimony should be used for three or four days, or even a week, till all redness and lividity are quite removed.

In simple sores, either of the prepuce or glands, the treatment is extremely efficacious, and here had better be conjoined with a solution of chloride of soda, containing about an ounce of the latter to a pint of water, which should be applied two or three times the first day. In many cases, in twenty-four hours the character of the sore becomes changed; the surface is no longer covered with white pus, a healing edge begins to show itself, and the sores, perhaps three, four, or more, are speedily healed. As soon as the character of the sore is changed, the part had better only be dabbed once or twice a day with the lotion, and at other times simply covered with a piece of dry lint; for we may be sure that here, as in all other cases, too much disturbance of a healing part only interferes with the natural healing process. Superficial sores will frequently, although of three weeks' or a month's standing, be healed in four or five days; but it is prudent to continue the antimony till not only the surface of the skin is not in the slightest degree raised, but even till the part affected assumes its natural colour.

The treatment of indurated sores is similar in all respects to that of superficial sores, and indeed that slight puffiness always to be seen round the most superficial sore is perhaps to be considered as a slight induration, and the dense cartilaginous hardness which occasionally presents itself is nothing but the same thing differing in degree rather than in kind; and we have the autho-

rity of some most eminent surgeons, in confirmation of universal experience, that either produce indifferently secondary symptoms. The rapidity with which the cure is effected in these cases is proportionate to the degree of hardness. If the induration is moderate, the sore may heal, but the induration will remain; in which case the person is by no means to be considered as cured, for the antimony must be continued not only till the sore is cured but till the induration is removed. If the induration is very intense and hard, the sore, although healthy, will not heal till that is absorbed. In all these cases the antimony should be given very frequently at the commencement, and with the utmost regularity; for the remedy always produces the greatest effect on its first administration, and seems rather to lose its power after many days, for which reason it should be gradually increased in quantity.

Phagedenic sores generally occur in poor weakly constitutions, and require peculiar treatment on that account. The employment of antimony in these cases acts decidedly as a mild tonic; but still, as its excreting effects seem to exceed its tonic powers, we find it advisable in these cases to conjoin the use of the remedy with that of other more potent tonics. If, indeed, the skin is cold and clammy, we should use such remedies as experience has taught us determine the blood to the surface, for a few days previous to the employment of the antimony. A grain of sulphate of quinine may be given twice or thrice a day. A grain of proto-sulphate of iron, or a grain of sulphate of zinc, may be used with great advantage for the same purpose; and the antimonial drops exhibited as before. If the patient is but slightly feeble we may begin at once with the following mixture:—

℞ Zinci Sulphatis, gr. v.; Aquæ Dist. ℥ss.; Vin. Ant. Pot. Tart. ℥ss.; quaque ℥ss. vel. ℥j. pro. dose 2da vel tertia hora sumenda.

Proto-sulphate of iron may be substituted for the zinc with similar success. If the patient is restless or sleepless, or the nervous system much affected, the addition of about twenty or thirty minims of syrup of poppies, or a few drops of laudanum to each dose, is of much service. A little Dover's powder may be given at bed-time. Whenever iron is employed it appears to be essential that the metal should be in the state of the protoxyde; for probably the persalts have but very little action on the system, and even that little action may be dependent upon a portion of the salt giving up one equivalent of oxygen. The nature of the salt of iron, provided it be a proto-salt, does not seem to influence the result.

In all cases where the patient is feeble, he should be desired, immediately on leaving his bed in the morning, to rub his entire body with a coarse towel till the skin is red, which will further help to promote a proper flow of blood to that important organ.

Buboes give way to antimony perhaps more rapidly than they do to mercury, and a more favourable prognosis may be given if this treatment be adopted. It would, however, be vain to attempt the removal of an inflamed bubo containing a large quantity of pus, by any general means.

Various eruptions of the skin, the sequelæ of syphilis, as a general rule, yield favourably and rapidly to antimony.

Ulcerations of the pharynx, uvula, and roof of the mouth, yield rapidly to this line of treatment. It is a good plan to use a gargle containing from ℥j. to ℥j. of chloride of soda to the pint of water, as that much facilitates the favourable termination of the disease. The ulceration, in these cases, rapidly loses its white layer of pus, frequently mistaken for lymph or sloughs; and as soon as a perfectly healthy surface is established the ulcer heals as rapidly as a common sore.

Ulcerations of the corners of the mouth and tongue, and a peculiar growth of the papillæ of that organ, yield rapidly to this line of treatment.

Syphilitic affections of the testicle, rhagides digitorum, &c., yield rapidly to this plan.

Of the value of antimony in syphilitic iritis and nodes I do not happen to have had any experience.

Such is a rough and brief sketch of the cases in which antimony has produced such good results; and if we compare this remedy with mercury we shall perceive that it is entitled to the preference, in all cases in which it is applicable, and this for several reasons. In the first place, mercury takes two, three, four, or more days, before its general excretory effects manifest themselves; and previous to that time a marked and powerful stimulating effect is produced. The period of its excitement might be justly called the exciting period. This excitement, or stimulating property, increases from the commencement of the administration of the mercury till the period of salivation, just before which it is at its maximum. The exciting period is always shorter, but more violent, in direct proportion to the amount of mercury; and if very small doses be given the period is probably prolonged in length, but diminished in violence; and sometimes, in these cases, it is barely distinguishable. If two grains of calomel, and a third of a grain of opium, be given every six or eight hours, the effect is at its maximum on the second or third day, whilst its excretory and absorbent properties begin to manifest themselves on the third or fourth day. According to this view of the case, mercury given in large doses does harm to the patient on its first administration, gradually increasing the symptoms until it reaches the maximum excitement, when the same remedy alters its effects, and causes absorption and excretion. This fact is invariably seen, either in iritis, inflammation of the lungs, or peritonitis, when treated by this remedy; and hence arises the frequent necessity for bleeding before the administration of the remedy, and the frequent apparent, and even real, necessity for its repetition, either general or local, at the maximum excitement. In practice we should endeavour, as far as circumstances will permit, to cheat the remedy of this baneful effect by introducing it very gently and carefully into the system; and we find that nearly every case will yield to such a gradual administration of the remedy. In some degree the excitement is governed by the nature of the mercural compounds, the oxides appearing to act more gently, and with less stimulation, than the chlorides, &c. Whether the remedy is taken in by the stomach, the skin, or by fumigation, it does not seem much to matter; by the former mode, however, the effects of the remedy are far more easily controlled; for the absorption of the remedy by the latter is uncertain in amount. Sometimes the combination of small quantities of antimony with the mercury lessens the degree of excitement. The evidences of the exciting period being at hand are, additional pain, heat and redness in the inflamed part, but more especially by a large increase to the deposition of lymph, and a considerable additional impairment of the function of the organ. Moreover, the system is much disturbed, the patient is restless, sleepless, feverish, and generally in a most uncomfortable state. As the intensity of salivation and absorption are directly proportionate to the intensity of excitement and stimulation, it would be unwise, when we thoroughly understand the nature of this excitement, to lower the system by an abstraction of blood, if that can possibly be avoided.

If antimony be compared with mercury in the above properties, a vast difference is seen between them; for the first remedy appears to excite excretion within two or three hours of its first administration; the effects of mercury, however, gradually increase with the administration of the medicine, which appears to accumulate and remain in the system, whilst that of antimony seems, by long continuance, to lose in some degree its power, requiring an increase of the dose. If we look at the unpleasant effects of mercury, as salivation, destruction of the teeth, sloughing, erythismus, &c., the con-

trast is also most striking; for I never saw antimony, in any case, produce poisonous symptoms, whilst every surgeon, even of but limited experience, must have seen frequent cases of death from the use of mercury, and sometimes even from very small doses.

The comparison between the action of tartarized antimony and iodide of potassium I feel hardly in a condition, at the present time, minutely to consider: but there are many unpleasant effects of this too-much-hackneyed medicine on the mucous, and perhaps even on the serous membranes, and, moreover, the remedy seems to remain in the system for a long period.

The treatment of syphilis by tartarized antimony, if compared with the pil panis systems of some modern surgeons, is most remarkable. I once had the opportunity of observing the latter practice upon a great variety of cases; and the duration of the disease appeared to be, as far as could be judged, more than treble, quadruple, or even a much higher multiple of the time required when moderate doses of mercury were administered. When, moreover, we consider that the antimonial, as a whole, may be considered more favourable than the mercurial treatment, the difference between bread (*i. e.*, doing nothing) and antimony is remarkable.

The use of tartarized antimony is even more conspicuously shown in the middle than in the lower classes of society; for in the former cases the excreting apparatus is far more easily set in action, from which cause rather smaller doses may be administered; and it is a fact well worth recording, that antimony has a much greater tendency to cause vomiting or nausea in the morning than at any other period, for which reason the dose may be reduced to one-half at that period. The plan of treatment which appears to be most eminently successful is that by which a large quantity of the metallic salt is introduced into the system without any immediate effects by the means of its introduction.

The diet of the patient must be modified according to circumstances: a spare diet, as a general rule is to be preferred, without spirituous liquors of any kind; but if the patient be feeble, nourishment or stimulus must be given, and there is no object in materially depressing the patient's strength in any case, though it would be advisable to keep him below what is termed rude health.

To ascertain the effect of antimony in entirely removing the syphilitic virus and preventing secondary symptoms, will necessarily be a work of time; but when we consider that antimony is a most potent remedy for removing the sequelæ of syphilis, how forcibly is the probability of a complete eradication of the disease presented to our minds. There are some creatures, indeed, who, unmindful of the lessons they learn, receive contagion upon contagion. In these cases we can easily conceive, that when a second or third disease is caught before the first is healed, and superimposed upon it, and the patient is always incurring fresh risks, that some portion of the sum of all his distempers would lurk about him for ever.

The principle of the employment of tartarized antimony is probably the removal of the poison from the system, and whenever any offending matter has to be removed from the human body, the general plan of treatment for syphilis is admirably adapted. For all forms of scrofula, where the matter may be regarded as a poison formed, though not taken into the system, it is invaluable. In all forms of impetigo and encrusted sores of every kind, which are quite analogous to scrofula, the rapidity with which such a treatment effects a cure is truly marvellous. Exaggerated cases of herpes yield with extraordinary rapidity, ten days or a fortnight being sometimes sufficient, in cases where the duration of former attacks had been two or three months, to effect such a complete restoration of the normal functions of the skin, as to leave no signs of a disease having existed. Sometimes a furuncular diathesis, where there is a great tendency to boils over the whole body, yields to such

a line of treatment, when all other plans have failed. Even in cases of affections arising from the absorption of other metals; the treatment is of much value, for I lately had a case of paralysis agitans from the absorption of mercury which yielded steadily and rapidly to antimony and tonics.

Medical Gazette, October 7, 1842, *p.* 45.

40.—STRANGULATED HERNIA TREATED BY EXHAUSTION THROUGH THE ELASTIC TUBE.

By C. S. Webber, Esq., Orford.

[In Article 40, of our first Volume, is related the experience of Mr. Maunder in introducing an elastic tube up the rectum in cases of strangulated hernia. We have no doubt that the principle is excellent, and we should only doubt the safety of pushing the tube twenty-six inches up the bowel. Cases, however, are advanced, which prove that the practice was unattended with danger; and therefore, we should again repeat, that the operation ought to be attempted before ulterior measures are adopted.

Mr. Webber of Orford, relates a case where he succeeded in the way recommended by Mr. Maunder; that he endeavoured to produce a vacuum below the stricture by the exhausting power of the syringe. The tumor which occupied the scrotum, was of the size of a goose's egg, remarkably tense and unyielding, with all the symptoms of strangulation. The taxis was diligently and carefully applied for about twenty minutes without success; the patient was then bled to syncope, and the taxis again had recourse to, followed by the application of cold to the tumor, and such other remedies as circumstances permitted. Before having recourse to an operation, Mr. Webber resolved to try Mr. Maunder's plan, which he did as follows:]

A common enema having been previously administered, I introduced the œsophagus tube of Weiss's stomach-pump with tolerable facility, until it arrived (as nearly as I could judge) at the sigmoid flexure of the colon, where it encountered some degree of resistance, which yielded, however, in a short time, to moderate pressure, after the injection of a little cold water. The tube was now passed gradually up until its whole length, about twenty-five inches, had been introduced, the brass extremity alone remaining without.

After waiting a quarter of an hour, between two and three pints of water were thrown up and retained in the bowel for a short period; the cylinder of the pump having been unscrewed from the elastic tube, and the mouth of the latter closed by the thumb, on withdrawing which the fluid repassed in a jet of considerable force. The cylinder was now readjusted to the tube, and the action of the machine being reversed, the piston was worked rapidly with the view of producing a degree of exhaustion or partial vacuum in the intestine; gentle taxis was at the same time resumed, and after the expiration of four or five minutes (during the latter part of which the patient complained of a sensation of bearing down referred to the whole abdominal region), I had the satisfaction to feel the contents of the tumor recede from beneath my fingers, and slip into the abdomen with the usual gurgling which accompanies the return of intestine.

The man recovered without an untoward symptom, and was removed to his father's house at Wickham, a distance of about nine miles, on the third day afterwards.

I am disposed to attribute the successful result of the foregoing case, in a principal degree, to the production of a partial vacuum in the intestine immediately below the seat of strangulation, by the exhausting process that

being the direct agent to which the obstruction appears to have yielded; and I am induced to recommend a trial of this measure to the profession as an adjuvant to that valuable instrument, the elastic tube, in cases where the latter alone may prove inefficient.

I have since reperused Dr. O'Beirne's excellent work on Defæcation, with the view of ascertaining whether exhaustion through the tube had been adopted in any of his cases. I cannot discover that the doctor has availed himself of this expedient, although a case of constipation is cited by him in which Dr. Duguid, of Kirkwall, in Scotland, introduced an elastic tube into the colon with the effect of discharging an accumulation of fæces; and I observe that this gentleman attempted to exhaust with the view of overcoming the resistance he experienced to the passage of the tube at the sigmoid flexure, but unsuccessfully, which circumstance induced him to undervalue the measure. There is, however, another case which seems to have suggested to Dr. Duguid the use of the tube, and which is reported in the Medical and Physical Journal, .or December, 1827, being communicated by Dr. James Johnson, as having occurred in February, 1826, in the practice of Dr. Alexander, of Genoa, who appears to have employed exhaustion through a hollow bougie, after twelve days of constipation, and the failure of tobacco enemata and various other remedies, with complete success. This case, which is a very interesting one, seems to have excited but little attention.

I cannot conclude without expressing my conviction (in nearly the words of Dr. O'Beirne, who uses them, however, with reference to the tube only), that no surgeon is justified in proceeding to the operation for strangulated intestinal hernia, without having previously given a fair trial to the measures above alluded to.

London Lancet, May 28, 1842, *p.* 304.

51.—OPERATION OF AUTOPLASTY FOR THE RELIEF OF CONTRACTION FROM BURNS.

By Thomas Mutter, M.D., Professor of Surgery in Jefferson Medical College, Philadelphia. &c.

[The patient, an adult, upon whom the following operation was performed, received a severe burn when five years old, by her clothes taking fire, and, at the time this is related, she had been unable to throw her head back to the left side or backwards, or to close her mouth for more than a few seconds for twenty-three years. Her right eye was also drawn down some distance below the other, and when she endeavoured to turn her head it was entirely closed. The clavicle on the right side was completely embedded in the cicatrix, and the chin, from the shortness of the bands, was drawn down to within *one inch and a half* of the top of the sternum; the space between the chin and the sternum was also filled up by the cicatrix. The following operation was performed:]

The patient being placed in a strong light, and seated on a low chair, her head was thrown back as far possible, and sustained in this position by an assistant.

Seating myself in front, I began the operation by making an incision which commenced on the outside of the cicatrix in *sound skin*, and passed across the throat into *sound skin* on the opposite side. This penetrated merely through the integuments, and was made as near the centre of the cicatrix as possible. It was, therefore, about three quarters of an inch above the top of the sternum, and of course in the most vital part of the neck. My object in making it so low down was to get at the attachments of the sterno-cleido-

mastoid muscles, which in consequence of the long flexion of the head, were not more than three inches in length, and required on one side *complete*, and on the other *partial* division, before the head could be raised. The integuments having been thus divided, I next carefully dissected through the cicatrix until I reached the fascia superficialis colli, which I could readily detect, and then going on still deeper, I exposed the sterno-cleido-mastoid muscle of the right side, and passing a director under it, as low down as possible, divided both its attachments. This enabled me to raise the head an inch or two; but finding that it was still kept down by the sterno-cleido-mastoid of the *left* side, I divided the sternal attachment of this muscle, and was much gratified to find that the head could at once be placed in its proper position, the clavicular attachment of the muscle offering little or no resistance. A most shocking wound *six inches in length* by *five and a half in width*, was thus made, and yet there was scarcely any hæmorrhage; three or four vessels only requiring the ligature.

The next step in the operation consisted in the detachment of a flap of *sound skin* with which this chasm could be filled; for I knew very well, that if permitted to heal by granulation only, the patient, so far from being benefitted, would be made worse than before. To obtain this flap, I commenced at the terminal extremity of the incision, and carrying the scalpel *downwards and outwards* over the deltoid muscle, dissected up an oval piece of integument *six inches and a half in length* by *six in width*, leaving it attached at the upper part of the neck. This dissection was painful, but not bloody, only one small vessel being opened. The flap thus detached was next brought round by making a half-turn in its pedicle, placed in the gap it was destined to fill, and carefully attached by several twisted sutures, to the edges of the wound. Several straps were then applied to support the sutures, but no other dressing was deemed advisable. The edges of the wound on the shoulder from which the flap had been removed, were next brought together by straps and sutures, and with the exception of its upper third, was completely covered in. A pledget of lint moistened with warm water was laid upon this raw surface, a bandage applied by which the head was carried backwards and maintained in this position, and the patient put to bed. The fortitude with which this truly severe operation was borne excited the admiration of all present. Scarcely a groan escaped the patient, nor was it necessary to give her more than a mouthful or two of wine and water during the whole period of its duration.

Rest and quietude were enjoined, and the patient prohibited from taking any kind of nourishment, in order that adhesion or union by the first intention might be accomplished.

[No unfavourable symptoms made their appearance, and union by the first intention took place. The patient was relieved of nearly all inconvenience: and twelve months after the operation no contraction in the flap had taken place. Other cases are related which were likewise successful. Dr. Mutter concludes a very able paper on the different means of relieving cicatrices caused by burns and other injuries, by making the following observations on *Autoplasty*, which in these cases has been found of signal service. He says:—]

The operation, which of all others, is most entitled to our confidence, especially in cicatrices of the neck, cheek, eyelids, nose, lip, is that in which "*autoplasty*" is brought into service. In all such operations, we are governed by the same principles, and pretty much the same mechanical details. They consist in,

1. Dividing the cicatrix so as to produce a raw surface, in some part of its extent; or cutting it out entirely, as proposed by Hildanus.

2. In applying to this raw surface a piece of healthy skin taken from the neighboring parts.

3. In attaching this skin by suture to the margins of the wound in which it is inserted.

4. In approximating the edges of the wound, from which the skin has been removed.

5. In separating, by appropriate agents, the parts too closely approximated, and keeping them in this condition, some time after the flap has united.

6. In applying oleaginous frictions, and motion to the new made parts to give them flexibility and softness.

Many shocking deformities from burns have been relieved by the performance of operations conducted on these principles; for example, the eyelid, the cheek, the nose, and the lip have all been restored; but I believe I may claim the merit (if merit there be in adapting an old principle to a new operation), of having first performed an operation of the kind for the relief of extensive cicatrices of the throat.

The American Journal of the Medical Sciences, July, 1842, p. 67—79.

52.—COMPLETE ANCHYLOSIS CURED BY OPERATION.

By WILLIAM GIBSON, M.D., Professor of Surgery in the University of Pennsylvania
Reported by THOMAS L. WALKER, M.D.

[We believe the following mode of operating in cases of anchylosis was first devised and executed by Dr. J. Rhea Barton. He performed it in cases where the joint was completely disorganized, and where there was a firm osseous adhesion between the ends of the bone, giving rise to most complete immobility.

He reported his first case in the *North American Medical and Surgical Journal* for April, 1827. It was performed on the person of a sailor whose hip joint was perfectly anchylosed, and the limb so situated as to overlap the unaffected one. The thigh bone was divided with a saw, through the great trochanter and a part of its neck. This being done, the limb was readily straightened, and bony union having been prevented by daily movement of the limb, ligamentous attachments were formed, and an artificial joint resulted. After the lapse of sixty days, the patient stood erect upon his feet, and finally did well, having a very tolerable use of his limbs. In 1838, Dr. Barton published another similar case, where the knee joint was the part affected, and will be best illustrated by the details of a case recently published by Dr. Gibson.

The patient, James Johnson, æt. 17, was admitted into the Philadelphia Hospital. An injury to the knee two years previously by means of an axe, had completely destroyed the use of the joint. The leg was fixed backwards towards the thigh, so as to form an angle much less than a right angle with the thigh. A careful examination satisfied Dr. Gibson that the parts belonging to the joint were all destroyed: ligaments, cartilages, and the synovial membranes, and that it was a case of complete anchylosis. The following operation was performed:—]

Nov. 17th, 1841.—The patient having been for several days restricted in his diet, was brought forward, prepared for the operation. Before a full attendance of medical students, and many eminent physicians, the proposed operation was explained by Dr. Gibson; after which, he proceeded as follows:—Two incisions were made, as in the operation of Dr. Barton; the first extending from the outer to the inner side of the limb, and passing immediately above the patella; the second commencing on the outer side, two

and a half inches above the first, and meeting it at an acute angle on the inner side. These incisions penetrated to the bone, engaging the integuments, the tendon of the extensor muscles, and some of the fibres. The soft parts included between the incisions being dissected off and turned back, the bone was exposed to view. A portion of the femur, of a wedge shape, was then removed with the saw, having a base upwards of two inches and a half anteriorly, and reaching to within a few lines of the posterior surface of the bone. The operation was then concluded by inclining the leg backwards, which caused that portion of the bone's diameter, undivided by the saw, readily to yield, and the solution of continuity to be complete. This method of accomplishing the separation of the bone, was regarded as an important step in the operation, inasmuch as it guarded the popliteal artery against wounds from the saw; and the dovetailed edges of the opposed surfaces were influential in fixing the extremities of the bones, until the asperities of these surfaces were removed by absorption, or by the formation of new matter. No blood-vessels were divided requiring the ligature or compression. The operation was completed in a few minutes, and the flap being returned to its place, and secured by the interrupted suture, light dressings were applied. The patient, lying upon his back, was put to bed, with the limb supported upon a double inclined plane, having an angle correspondent to that of the knee, before the operation. As great care was necessary to provide against pressure upon the popliteal vessels, the limb reposed on two bran bags, which were fastened to the edges of the plane, so fashioned, that its angularity could be varied, without being removed from beneath the leg, as its extension might require. The vacancy between the bags was carefully supplied with cotton. Very slight hæmorrhage followed, which, proceeding from the division of one of the articular arteries, stopped spontaneously in a short time; and except for a slight oozing, which continued for two days, there was no sign of hæmorrhage afterwards.

In the evening, the patient suffered very little pain; complaining only of a slight uneasiness in the inguinal region, which was attributed to the position of the limb; was indisposed to sleep, consequently took fifty drops of laudanum.

18th.—Passed a comfortable night; was without pain, and felt perfectly easy; oozing from the knee very inconsiderable: rigidity of muscles diminished, and leg less contracted.

19th.—Slept all night without pain. Pulse full, strong, and regular. (about 75 in the minute). Leg hard, by force of gravitation, extended itself a good deal.

American Journal of Medical Science, July, 1842, *p.* 40.

[The limb gradually elongated, and on May 1st, 1842, the patient walked about continually without the use of a crutch or stick, the knee being only half an inch shorter than the other.]

53.—NEW MODE OF TREATING STRUMOUS OPHTHALMIA.

By E. O. Hocken, M.D., London.

[Dr. Hocken, whose valuable contributions to ophthalmic surgery we have occasionally noticed in former volumes, attributes the intolerance of light in this affection, not to affection of the retina, but to the ophthalmic division of the 5th nerve, which supplies sensation, nutrition, and secretion to the eye, and all the other contents of the orbit, and overrules the functions of the lachrymal gland. He believes that the retina itself is in direct communication with the fifth, through the medium of filaments dis-

tributed with those of the optic nerve, not, as Magendie thought, as the actual nerve of sight, but as the source of common sensibility to light, and the medium of impressions on the pupil through the lenticular ganglion.]

If a small foreign body, says Dr. Hocken, as a grain of sand, get between the upper eyelid and globule, a temporary condition, very analogous to strumous conjunctivitis, is induced; the patient manifests the greatest intolerance to light, the orbicularis palpebrarum is affected spasmodically, *the pupil contracts to a fine point*, and the eye waters profusely. When we come to examine it we find the eye turned greatly upwards and outwards, and the same difficulty with the orbicularis. Now, in this case, it is obvious that all these symptoms depend entirely on an irritation of the fifth nerve. But it is equally clear to my mind that, although the fifth nerve produces contraction of the pupil, *per se*, still, under ordinary circumstances, the light must fall on the retina to occasion this change. The experiments of Fontana prove that the mere action of light on the iris is insufficient to produce contraction of the pupil unless the retina be simultaneously affected.

But daily observation also proves that if the fifth nerve be in a state of irritation the action of light on the eyelids alone is amply sufficient to produce the same effects. The experiments of Magendie also tend to confirm this opinion of the function and communication of the fifth nerve, and not, as he imagined that it was, the true nerve of vision; for although the retina was apparently insensible to intense light from division of the fifth it does not necessarily follow that the animals were blind. His experiments were performed on rabbits, in whom division of the fifth nerve produces contraction of the pupil, and even here, when he admitted solar light, and concentrated it on the retina by a lens, the animal closed its lids. Mr. Walker, in some very ingenious and interesting remarks, clearly proves that under similar circumstances sensibility to light is lost, but not the proper functions of the retina. In a patient of his all the parts supplied by the fifth nerve were paralysed on one side of the face, and here there was a striking difference in the sensibility of the two eyes to light. The healthy eye could not bear the same amount of light for a single instant which produced no effect on the eye of the paralytic side; the flame was distinctly visible to the eye, but it produced no irritation. Again, where persons are quite blind, sensibility to light often remains.

Cases of complete amaurosis are occasionally met with where the iris moves actively and freely, and where the patients can tell by their sensations the difference between light and darkness, without being able to see at all. These cases appear to dissect, as it were, the different portions of the retina, and show its separate functions; the true retina is paralysed by disease in some part of the visual nervous system, whilst the sensitive functions of the fifth and the motor of the third nerves remain intact.

It is clear, therefore, that the intolerance of light, the spasmodic closure of the lids, the profuse lachrymation, the contracted state of the pupil, and the involuntary efforts to exclude the light, in strumous conjunctivitis, are not dependent upon any derangement in the state of the retina itself, but on the various filaments of the fifth nerve which supply the different parts, including the retina; and that this is the true pathology of the affection those cases show where all these symptoms are present without phlyctenulæ, or any notable redness; and, moreover, as I shall presently show, that to remove the great susceptibility of this nerve is to cure the attack.

[Observing Mr. Wormald's success in treating the slighter forms of ophthalmic affections in St. Bartholomews Hospital, by daubing the nitrate of silver on the *outside* of the lids, Dr. Hocken gave it a fair trial in cases

of strumous affections, and from his own experience highly extols the application.]

Mode of Applying the Nitrate of Silver.—A clean stick of the nitrate of silver, having from one to two inches exposed, should be selected. The patient's eyelids are to be closed, and put slightly on the stretch by applying the thumb of the left hand to the eyebrow, and gently raising the skin; the nitrate of silver is then to be passed, previously moistened, over the whole surface of the skin of the upper, and subsequently of the lower eyelids, two or three times, smoothly, and without much pressure, bringing, not the point, but the sides of the stick of lunar caustic in contact with the skin. The object of this application is only to blacken and not to occasion any severe effects, and it will be found that, after a short time, as soon as the nitrate has had time fully to act on the fifth nerve, it will completely relieve the intolerance of light, the lachrymation, and, what is of the most importance, the spasmodic strivings of the orbicular muscle, and hence relieves the patient from that constant irritation and pressure which maintains and aggravates the affection.

In one of my patients, a little boy, four years old, I had an opportunity of treating an attack of strumous conjunctivitis and purulent ophthalmia in different eyes at short intervals of time. The strumous attack was cured at once, but in about a week after he was brought to me with purulent ophthalmia of the opposite eye. I at first used leeches, purging, and strong solutions of the nitrate of silver, to be placed between the lids, but this treatment, although it subdued the severity of the attack, failed to cure it; it merely subsided into a chronic form. At this stage I applied the nitrate of silver to the outside of the lids, in the way described, which immediately gave a new feature to the case. He improved directly, and a second application, about a week subsequently, produced a cure in a few days.

London Lancet, Nov. 19, 1842. *p.* 285.

[The additional treatment may consist of giving three or four grains of the hydr. cum creta, or two of calomel, with one, two, or only half a grain of quinine, according to the age, and following it up about six hours afterwards with an appropriate dose of rhubarb, ginger, and sulphate of potass. If the smaller powder be given at night, the aperient should be delayed till next morning. This may be repeated twice a week.]

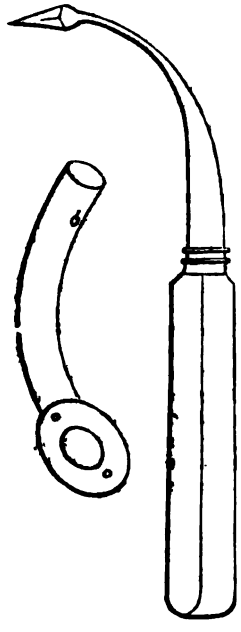
54.—ON LARYNGOTOMY.

By John Hilton, Esq., F.R.S.

[Two very interesting papers have been just published on this subject; one in Guy's Hospital Reports, by Mr. Hilton, and the other in the Medico-Chirurgical Transactions, by Dr. John Wilson, Physician to the Middlesex Hospital. We quite agree with Mr. Hilton, that "laryngotomy or tracheotomy, as the case may be, is an operation a great deal too much neglected;" and when we reflect on the simplicity of the process adapted to relieve so dangerous a disease, we are only surprised that practitioners have not more frequently availed themselves of it, especially in cases where it can be the only possible way in which life is to be saved. On the subject of the operation itself, Mr. Hilton says:]

In this operation I used a curved trochar and canula; the canula being oval from side to side; and the trochar lancet-shaped, much flattened above and below, and cutting at its point and edges. This instrument may be passed through the crico-thyroid membrane into the larynx or through the trachea, with the greatest facility, the larynx being held steady

by the surgeon's left hand: indeed it is scarcely necessary to divide the skin with a lancet, before attempting its introduction; yet, with the circumstances permitting, I think that a good previous step. The forms of the cutting instrument and the canula are so adapted, that the canula presses upon the whole of the cut surface, and thus prevents any internal bleeding; and further, as regards laryngotomy through the crico-thyroid membrane, the oval outline of the canula is the form best adapted to the form of the space between the cartilages. It is said some persons cannot bear a canula in the larynx or trachea. I apprehend, that when this inconvenience arises, it occurs from the end of the canula touching the posterior part of the larynx or trachea; a point easily determined at the time, by knowing the length of the canula, and passing a probe to its then internal extremity. This contact it is difficult to avoid with a straight or slightly-curved canula; and such an one is also very liable to be blown out of the larynx by the patient coughing.



With the intention of avoiding these inconveniences, it is better to use a trochar and canula very much curved; which, when introduced, hooks itself into the larynx or trachea; and is very secure in its position, with its internal aperture presenting itself completely to the centre and in the axis of the trachea in which it is placed, and so offering the greatest facility to the passage of the air during respiration, and for the exit of mucus.

The instrument which is sketched in the accompanying plate was made by Mr. Laundy, under the direction of my friend and colleague, Mr. Edward Cock; and answers its purpose exceedingly well.* The extreme convex and thinnest part of the trochar being "steel-tempered" and elastic, allows its introduction through the curved canula: yet I think it might be improved, by enlarging the external aperture; which would permit a more easy egress for any thing passing from the chest.

There is, perhaps, in the minds of the generality of patients a most unpleasant feeling associated with the idea of a cut in the throat into the windpipe, which may tend, on their parts, to interdict and prevent laryngotomy or tracheotomy being performed, except in an extreme emergency; but I feel assured that one of the obstacles to their more frequent performance in laryngeal affections is the supposed difficulty, and imaginary apprehension of danger in its completion.

This operation with the trochar and canula may be done well, and almost in an instant, by any medical man;—is not in itself in any way dangerous—not painful—and almost invariably gives immediate relief, imposing very little inconvenience on the patient at the time or subsequently: and when the necessity for the artificial opening no longer exists, the aperture closes with facility, and leaves but little cicatrix. Such considerations ought to recommend this operation, in many of those cases which are perhaps thought to admit of delay, or in which the propriety of its performance is now considered doubtful; such are, œdema of the glottis, and thickening or great relaxation of the sub-mucous cellular tissue with serous or purulent infiltration, diseases which exist much more frequently than is generally admitted, and very often prove fatal to the patient. Many deaths have occurred

* The wood cut is here reduced in size.

from obstruction to respiration by very enlarged tonsils, abscess in the walls of the pharynx, or swellings of other kinds in that neighbourhood, from the ill-judged delay of opening the larynx until death is immediately impending, and unfrequently thwarts the mis-timed determination of the medical attendant; but in chronic affections of the lining membrane, or the cartilages of the larynx, I believe it will prove of infinite service: and I would add, that it is usually delayed much too late, to be in its proper place as a part of the treatment, and of its legitimate service in idiopathic inflammatory croup, but especially so in that produced by children drinking boiling water, &c. Cases of spasmodic croup in children, or in adults in whom the same symptoms may be repeatedly induced by an enlargement of the aorta, or diseased bronchial glands pressing upon and irritating the left recurrent laryngeal nerve, are those in which delay may be considered as always dangerous; and in which procrastination on the part of the surgeon prolongs unnecessarily the extreme distress of the patient, and is very likely to deprive him of a resource in art which would have prolonged his life in comfort and security.

After what I have seen in practice, and from what I have observed in the inspection of the dead, I am certain laryngotomy, or tracheotomy, as the case may be, is an operation a great deal too much neglected; and I am equally confident that much distress might have been avoided, and very many lives saved by it; therefore I would urge its more frequent performance.

One supposed valid objection to the use of the trochar is the impossibility of seeing what structures are divided by it, and that you consequently run the risk of opening some blood-vessel which may bleed into the trachea and lungs. In the first place, no consideration of this kind ought to interfere, to delay the puncturing the tube, when danger appears at hand from suffocation; as the patient may be irretrievably dead by the loss of time in the more prolonged operation of cutting systematically through the structures, to arrive at the larynx or trachea: but as the canula fits accurately the aperture made by the trochar, all the divided vessels which could pour their blood into the wind-pipe would be compressed by the canula, and so prevent the occurrence of hæmorrhage. But granting that some blood might be admitted into the trachea, it would be, in all probability, in part, if not completely expelled at the next expiration: and even supposing it were not, the patient would only then be in the same condition as persons suffering from severe hæmoptysis; with this additional advantage, that the source of the hæmorrhage might be made visible by withdrawing the trochar, and the hæmorrhage arrested by rubbing the surface of the wound with nitrate of silver, by torsion of the vessel, or placing a ligature upon it.

Guy's Hospital Reports, October, 1842, p. 454.

[Mr. Hilton gives some interesting cases which it will not be necessary here to relate. We will give a short account of those related by Dr. Wilson, in the vol. of Medico Chir. Trans. just published. The first was a case at first of a chronic nature. The woman, Elizabeth Slack, aged 46, began with a cold, followed by a hoarseness, cough and spitting, which continued many months; she became subject to occasional paroxysms of stridulous breathing, accompanied with strange noises. In one of these attacks she became delirious, then comatose, countenance cadaverous, breathing about twice a minute with acute stridulous sounds; the larynx was immoveable during the attempts at inspiration. On applying the stethoscope no air could be heard to pass.]

The resident medical officers made a small opening through the integuments, just sufficient to admit a large trochar to pierce the crico-thyroid membrane, and pass into the larynx; the stilette was then withdrawn, and the canula properly fixed, when air was instantly heard to rush into the trachea and lung; though prior to this she had evidently ceased to breathe.

The respiration gradually resumed its force and frequency. The pulse, which before had been intermittent, became steady, and increased in frequency. The countenance lost its livid appearance, and the whole surface became covered with a warm perspiration. Noon.—She is now conscious when spoken to, swallows with ease, and speaks when the tube is stopped by the finger—complains of being sleepy.

Afterwards the mouth was made tender by mercury. The difficulty of breathing was relieved by swallowing warm water.

On the 19th the canula was removed from the larynx, and she breathed through the patulous opening, till she complained of the cold air passing down the trachea giving pain. Next day a curved tube was introduced, as the straight one irritated the back part of the larynx, but only for a day or two afterwards were any tubes used. For some time she continued to breathe through the opening, which diminished in size as the breathing through it became less. Often she expectorated a rusty-coloured fluid, and at times was able to swallow small quantities of solid food; but she continued to make the same croupy noise during sleep, although less loud than at first.

The aperture often closed, and remained so for days, till paroxysms of coughing forced it open again; but during these openings and closings, the wound was never interfered with, for it performed the same part as a safety-valve when subjected to too great pressure. Thus it was left till the natural passages were restored, so as to perform permanently their entire functions, when (November 17th) the wound closed finally. Afterwards she felt more relieved. The cough continued, but the expectoration became of a better colour.

January 21st.—Slight cough with expectoration, breath short in damp weather—can lie flat—makes a noise during sleep—general health much improved. Discharged.

[The other case was of a more acute character, having been only ill six days. The difficulty of respiration increased rapidly from the progress of inflammation. Hoarseness, urgent dyspnœa, and raucous breathing, threatening suffocation. The trochar and canula were passed between the thyriod and cricoid cartilages, as in the former case, but this not being followed by relief, laryngotomy was performed with instant relief.]

Med. Chirurgical Transactions, Vol. 7, New Series, p. 64.

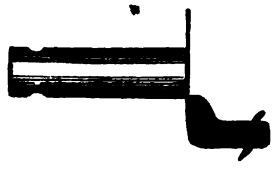
55.—DR. V. DUNNE'S DILATING CANULA.

The following is a description of a dilating canula invented by Dr. George Vickers Dunne, and recommended as an instrument well calculated to prevent the contraction which too frequently takes place in wounds of the trachea after the operation of tracheotomy.

The first figure represents an oblique view of the instrument, which consists of a canula formed of two equal sections or portions, with an apparatus attached for opening the blades or sides.

A and B point out the sides of the canula, which are represented as being separated to the extent of one-sixteenth of an inch, and when placed in opposition, form a perfect straight canula, an inch and a quarter in length, and three lines in diameter. At the anterior extremity of the canula a shield is attached formed of two sections, C and D, which are perforated each by three holes to allow a bandage

being attached. A pin may be observed to pass from the upper and under edge of one side of the shield and enter a slide on the other to keep the shield in position. E and F are angular stems or branches which descend from the inferior edge of the shield half an inch, and project five-eighths of an inch to connect the canula with the moving apparatus. This consists of a square pin, which is connected with the branch E, passes through a square hole at the branch F, and is furnished at its extremity with a male screw G, which enters a female screw in the handle I. From the branch F a lateral branch H passes off anterior to the last, and is furnished with a ring at its extremity, which is secured on the inner extremity of the handle, but allows the latter to revolve within it on the male screw G.



The second figure gives a profile view of the instrument, which should be made of hard silver, and the canula and shield about the size of the first figure; but the moving apparatus is represented on much too small a scale, as from the extremity of the handle to the branch E should not be more than one inch and a quarter in length, which would allow the canula to open sufficiently: this part should be made of sufficient strength, and all the joints should fit most accurately, as upon this depends the perfection of the instrument, which is solely worked by turning the handle.

Dublin Medical Press, July 29, 1842, *p.* 37.

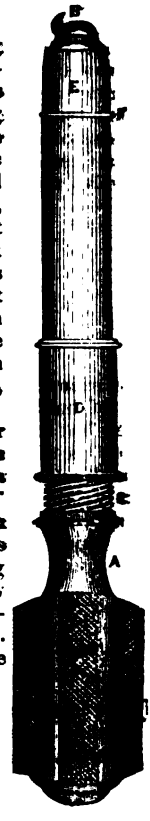
56.—NEW INSTRUMENT FOR OPENING THE TRACHEA.

By Mr. Millikin, of Dublin.

[This instrument has received the approbation of several eminent men in Dublin among whom we may mention the names of Professor Porter, Messrs. Cusack, Wilmot, Fleming, and Smyly.]

Mr. Millikin of Grafton-street, has invented an instrument for opening the trachea, of which the following is a description :—

The tracheotome is composed of two parts—



A, the stilette having (as represented in the accompanying figure), a large flat screw B, at the extremity, for fixing the trachea, and another screw C, at the handle, on which revolves the canula D. The canula is of silver, and terminates in a ring of steel E, which is sharp and in the form of a punch. When prepared for use, the stilette should be withdrawn within the canula, and the trachea being laid bare, the instrument is placed on the part selected. The operator now holds the canula firmly, and by two or three turns of the stilette, fixes the instrument by means of the screw B, which answers instead of the hook in the old operation. He now holds the handle, and rotates the canula from left to right, until the guard F passes against the trachea. If a vessel has been wounded, and there be much hæmorrhage the stilette is to be withdrawn, the circular piece cut out, remaining in the screw; a flexible gum catheter can then be passed through the canula, which may be withdrawn, and the bleeding arrested by the usual means.

The above instrument first suggested itself to the inventor at an operation in Mercer's Hospital, on which occasion both Messrs. Read and Tagart remarked "that there was great room for improvement in the instrument used for that operation." He, therefore, took Haller's punch for his model, and through the kind suggestions of many members of the profession he is enabled to bring before the world a perfect instrument. Being round it removes a perfectly circular piece, cutting equally through rings, and softer structures, and not leaving flaps opening internally, as is the case where the tracheal trochar is used. Acting as a wedge, it prevents any blood getting down into the bronchi.

Dublin Medical Press, June 22, 1842, *p.* 490.

57.—ON BENZOIC ACIC IN URINARY DISORDERS.

By John Smith Sodon, Esq., Surgeon to the United Hospital, Bath.

[In Article 12 of our fourth vol., will be found an interesting account by Dr. Ure, of benzoic acid in urinary disorders. Dr. Walker, of Huddersfield, subsequently published some excellent remarks on the same subject, illustrated by four interesting cases, which we ought to have published in our last volume, but unintentionally omitted. Dr. Walker says on this subject :]

There are few more distressing complaints than those seated in the bladder, which so often occur in the decline of life, as well as in persons much engaged in sedentary employments. There may be no gouty diathesis, no affection of the prostate gland, no calculus in the bladder, no hæmorhoidal tumors, or any other affection of any viscus adjacent to the bladder, yet the functions of the bladder itself may be impaired, and more or less difficulty in passing the water may arise, so as to embitter the declining years of life, and gradu-

ally superinduce constitutional decay. Such instances occur to every practitioner, and are amongst the most intractable as well as painful he has to encounter. Nor is this distressing affection peculiar to those who have led an irregular and intemperate life, but occasionally attacks the most regular and temperate men, as they advance in years. Sometimes the mucous membrane of the bladder becomes thickened, indurated, or ulcerated, and a considerable quantity of mucus or pus passes off with the urine, giving to it the appearance of whey, and now and then blood is discharged. The dysuria, of which I am now speaking, is of a chronic kind, and incidental chiefly to persons in the decline of life—the "dysuria senilis," if I may so term it—and is not always accompanied with excess of gravel in the bladder. In some instances there is little or no gravelly sediment; in others the contrary, with a large deposit of urates. Sometimes there is mixed with the mucous sediment some particles of gravel. But all these circumstances are familiar to the profession. Indeed, the natural tendency to disease of the urinary organs in advanced life is a circumstance remarked by Hippocrates himself, who observes, "Renum et vesicæ dolores difficulter sanantur in senibus." But if there is no stone in the bladder it may go on for years, if proper care is taken to avoid any undue source of irritation in the mode of living, and where there is no material pain or fever. It more frequently happens, however, that, with the strictest attention to every precaution, a very slight cause, even *sudden change* in the weather, will be followed by increased dysuria. Many are the remedies usually had recourse to. The uva ursi, buchu, balsam copaibæ, with other similar medicines, are sometimes useful. With others, gentle aperients taken from time to time, and anodyne glysters, are more beneficial; and even the injection into the bladder, now and then, of some emollient decoction, by means of a vesicæ lotura, with a view to allay irritation, have been found very useful. But the use of benzoic acid is among the latest of the modes of treatment; and so far as I can judge from its exhibition in several cases of dysuria senilis, under my own care during the last few months, I am inclined to augur very favourably of its utility. In some instances we may account for the benefit resulting from its use by its chemical action on the urates, which, if in excess, may add to the acrimony of the water, and thus prove a source of irritation to the mucous membrane of the bladder. But it is often of service where the gravel in the *urine* is inconsiderable, and where the irritation and pain would seem to have arisen from some other cause.

Provincial Medical and Surgical Journal, Feb. 26, 1842, p. 424.

[These remarks of Dr. Walker induced Mr. Soden to try the same combination of benzoic acid and copaiba in certain cases of urinary disease which he met with. In one case related, Mr. Soden was first called in on account of retention of urine: at that time the patient had frequent inclination to pass urine, though able to void only a small quantity at each call, and it was generally loaded with a mucous secretion. The prostate was enlarged, and the catheter was daily passed by the patient himself for the next three years, during which time he took nearly every remedy used in such cases, and found the uva ursi as useful as any. The symptoms, however, became aggravated, and the urine now deposited a large quantity of muco-purulent discharge, and he complained much of the irritability of the bladder. Mr. Soden then says:]

I injected warm water, and, as on former occasions he had derived more benefit from the exhibition of uva ursi than from any other remedy, I prescribed that medicine, together with the use of the hip-bath, and a suitable regimen: as no material relief ensued at the end of three days, I directed the benzoic acid in the following form:—

Benzoic acid, one drachm; balsam of copaiba, half an ounce; yolk of egg, enough to form a mixture with seven ounces of camphor mixture. Two tablespoonfuls to be taken thrice a day.

I never witnessed any thing equal to the efficacy of this medicine; the urine became clearer after the first dose, and in two days it was perfectly free from mucous deposit: the irritability of the bladder was lessened, and in four days the patient resumed his self-management. I did not feel the calculous during this attendance. The gentleman left Bath about six weeks after this period. I saw him a few days before his departure; he told me that he was as well as usual, that he continued to use the catheter, but that the urine was quite clear, and that when he observed any tendency to mucous deposit he had recourse to the mixture, and always with success.

The result of this case induced me to give the medicine a trial at the United Hospital, and our intelligent house surgeon, Mr. Morgan, has been kind enough to give me the heads of four cases in which it has been exhibited at that institution.

Case 1.—A man, aged thirty-five, applied for admission as an out-patient, complaining of frequent desire to make water, which has existed for the last month; the urine deposits mucous sediment; the patient has no gonorrhœa, and refers his disorder to being much exposed to cold and wet. On passing a catheter the urethra was found perfectly natural, but there was some slight hæmorrhage after the urine had been evacuated; has some pain in the loins; pulse rather strong; was at first cupped on the loins, and ordered aperients; and then diosma and the pareira brava, with opiates, were given in succession. After having attended for three weeks, he complained of some pain in the joints, for which he was ordered colchicum, and though it greatly relieved the rheumatic affection, produced no beneficial effect upon the state of the bladder. Mr. Soden saw him, and directed the mixture, with benzoic acid and balsam of copaiba. He found benefit after using it for two days, and in ten days was perfectly well.

The most remarkable circumstance connected with the exhibition of this medicine, as far as my experience goes, is its decided efficacy in diminishing, and, in some instances, completely suppressing the mucopurulent deposition in the urine, which is so prominent a symptom in most cases of affection of the bladder. I am aware that a doubt may be very fairly entertained whether this effect is to be attributed to the benzoic acid, or to the balsam of copaiba, or to their combination. In the few cases which I have just related I was induced to give both these medicines, from the advantage which had been derived from their use in Dr. Walker's practice. It is, however, very desirable to ascertain the effect of benzoic acid alone in similar cases, more particularly as balsam of copaiba so frequently disagrees with delicate stomachs.

Ibid, July 29, 1842, *p.* 496.

58.—ON A NEW WAY OF OPERATING FOR CATARACT.

By John Morgan, Esq., F.L.S., Surgeon to Guy's Hospital.

[The way in which Mr. Morgan now operates for cataract seems certainly to be new in this country, although practised with success by Mr. Egerton, of the Eye Infirmary, Calcutta; but we should doubt its being an improvement on the more usual methods of operation; and we publish it not so much from our admiration of it, as on account of the excellent authority by which it comes recommended.]

The pupillary aperture having been dilated by the application of belle

donna to the eyebrow, the patient is to be placed as in cases of operation for depression, the eye to be operated upon being towards the light, and the head of the patient fixed by an assistant opposite to the breast of the operator, and against his own. I always prefer the sitting to the recumbent posture, except in operations for extraction, as there is an advantage gained by seeing down into the globe as you depress the lens to its destination. The needle which I use is extremely fine, of the same thickness from the point to the handle; cutting at the point, but not at the sides, and hardly longer than the diameter of the globe. In all operations on the eye, I invariably use a very short needle; which is, in my opinion, much more convenient than one of the usual length. The point of the instrument is now to be passed through the sclerotic, at the distance of rather more than a line from its junction with the cornea, and just below its transverse diameter; it is then to be carried with a slight inclination forwards, directly through the central substance of the cataract, completely transfixing the lens. This part of the operation requires a good deal of careful management; the object will be to disturb surrounding parts as little as possible, by transfixing the lens *in situ*; and this is to be effected, not by pushing the point of the needle at once directly onwards, but by carefully drilling its way through the opaque body by rotating the handle of the instrument as it is held between the thumb and fore finger, while the point at the same time is gently urged onwards. Having thus insured complete transfixion by drilling, the first step of the operation is accomplished; and it will be seen that the second can now be performed with the greatest ease and precision—I mean the dislocation and depression of the lens, which must of necessity follow the exact course of the point of the instrument by which it is impaled: and as the needle has been introduced below its transverse diameter, it will be *pulled*, instead of *pushed* down, and thus be effectually prevented turning on its axis into the vitreous humour as it is descending—an occurrence which will sometimes take place during the operation as at present performed, and which, for obvious reasons, it is desirable to guard against. Another advantage gained by transfixion is, that all chance of injuring the retina by the pressure of the lens, either from its slipping from the point of the instrument during the operation, or from its having been unconsciously left resting on that membrane after its completion, all danger of amaurosis from such causes is removed; for we have such perfect command over the opaque body, that we can determine to the greatest nicety the exact course it will take in its descent, as well as the precise situation in which it will be left after the needle is withdrawn. The course should be so directed, that the anterior surface of the lens passes hardly a line distant from the corpus ciliare and retina, taking a curved sweep as it descends, corresponding with the concave curvature of the interior of the globe; and it should be left as nearly as possible with its upper circumference a line below the lower edge of the widely-dilated pupil. Very great care is required in the disentangling the instrument from the cataract, as it is being withdrawn from the globe; and this should be done by drilling the needle *out* from the depressed lens as it lies, without changing the direction of the handle of the instrument till it has been liberated in the same manner as it has been drilled *in* while the lens was *in situ*; for by neglecting this precaution, the lens will follow the point of the instrument, and be either raised again or forcibly dragged against the retina as the instrument is drilled out. Should any portion of an opaque capsule remain in the pupillary aperture after depression, it should be brought into the anterior chamber, if possible, with the point of the needle, before it is withdrawn from the globe, and after it has been disentangled from the lens. But I would recommend caution in cutting up a *posterior* capsule, lest the cells of the vitreous humour should be broken down in doing so; for, as I have already stated, I consider the preservation of their integrity very essential to the *success* of an operation for depression.

[The exact course of the lens may certainly be well directed when it is thus fixed to the end of the needle, and as little of the vitreous humour as possible is thereby displaced, so that the hyaloid membrane is comparatively unbroken, and thus acts as a powerful agent in preventing the future ascent of the lens; but we question whether this advantage will compensate for the risk of *drilling* the needle into the lens, and then *drilling* it out again. We suspect, that if the lens were harder than usual, it would be even more displaced than by the simple operation of depression, and when it had become depressed on the point of the needle, cases would occasionally occur in which it might be difficult even to extricate it from the lens.]

Guy's Hospital Reports, Oct. 1842, *p.* 463.

59.—ON THE TREATMENT OF ENTROPION.

By O'B. Bellingham, M.D., one of the Medical Officers of St. Vincent's Hospital.

[Dr. Bellingham brings forward two cases of this disease in which Dr. Jacob's method of operating is shown to advantage. In the first case the superior tarsi of both eyelids were completely inverted, except at the angles; the lashes lying against the balls of the eyes: and all the consequences of such an affection were present. In the second case, Guthrie's operation had been performed with some imperfect relief; after which, the edge of the tarsal cartilage with the bulbs of the eyelashes was excised, since which time the right eye has been relieved. Soon afterwards the left eye became affected, and the tarsal cartilage was inverted, except close to the angles of the eye, and the lashes were in contact with the globe. Every surgeon knows that this must soon or late seriously injure the organ, and that some operation is invariably called for. "In the simplest form of the disease, where the integuments of the lid are merely relaxed and lengthened, or where the entropion is confined to the lower lid the excision of a fold or the destruction by an escharotic of a portion will generally be sufficient."]

In the advanced stages of this affection, however, when the tarsal cartilage is corrugated and shortened, other proceedings are necessary; and among the operations for its relief, one of the earliest is that of Sir P. Crampton.

"Having raised the upper eyelid by means of the first and second fingers of the left hand, he passed a narrow, slightly curved, and sharp-pointed bistoury between the eye and eyelid at its internal angle, and pushed it through the lid, so as completely to divide the tarsal cartilage by a perpendicular incision about three lines in length; a similar incision was then made at the internal angle; the eyelid immediately felt unconfined, and its margin could with ease be turned outwards; he then by a transverse section of the conjunctiva united the extremities of the perpendicular incisions, which was effected by running the knife along the conjunctiva, beginning at the external, and terminating at the internal section. As soon as the bleeding ceased, the parts were washed and dried, and a suspensorium palpebrarum was then applied to retain the lid everted."

Mr. Guthrie combines the excision of a portion of the integuments of the lid with the operation proposed by Sir P. Crampton.

Mr. Lawrence, in bad cases, prefers the excision of the edge of the lid, together with the bulbs of the eyelashes; this, as he observes, is certainly effectual in removing the immediate cause of the evil, viz., the irritation caused by the inverted cilia.

The operation performed in the foregoing cases was that first practised by

Dr. Jacob; it is a modification and improvement upon Sir P. Crampton's, and it possesses several advantages over those usually performed. It is equally effectual and more simple than Mr. Guthrie's; and it does away with the necessity for the application of any apparatus to preserve the lid in an everted state, as in Sir P. Crampton's and Mr. Guthrie's.

The patient being placed in a sitting posture, and the head supported by an assistant, the inverted upper lid was separated from the globe of the eye by means of the finger or a sharp hook, and then with a pair of strong scissors two perpendicular incisions were made through the tarsal cartilage, each about a quarter of an inch in length, one upon the temporal, the other upon the nasal side, avoiding the punctum, and including the whole inverted portion of the lid; this part being now everted and held in that position, the two perpendicular incisions were connected by a horizontal incision upon the conjunctival surface close to the ciliary margin by means of a scalpel, cutting through the conjunctiva and tarsal cartilage, and leaving the inverted portion of the margin united to the rest of the lid, *merely by the integuments*; taking care that the knife did not penetrate through the skin. The inverted portion of the lid is now no longer turned against the ball of the eye, and as soon as the smarting from the operation subsided, the patient felt relief —a light pledget of lint wet with cold water, or a dilute solution of sulphate of zinc was then laid upon the eye, and moistened occasionally.

The success of this operation depends in a great measure upon the edges of the incision being prevented from uniting by the first intention, particularly the horizontal incision upon the conjunctival surface; this is effected by everting the lid occasionally during the first few days, and by touching the edges immediately after the operation with the sulphate of copper, so as to cause it to suppurate and fill up by granulation.

In the first of these cases both the eyes were operated upon, and the patient left the hospital perfectly cured. I saw her about a year afterwards, at which time she was labouring under a recent attack of conjunctivitis; when it subsided there was a tendency to inversion of a portion of one lid, which, however, required only a little attention to cleanliness on her part to be removed.

The second patient also left the hospital perfectly well, the cornea having nearly recovered its transparency; some time afterwards a few cilia growing about the punctum internal to the incision of the cartilage gave him some annoyance; but there has been no return of the entropion.

Dublin Medical Press, July 27th, 1842, p. 54.

60.—ON SOLUTION OF GUM ARABIC IN SCALDS AND BURNS.

By Wm. Rhind, Esq., Edinburgh.

[Amongst the various ingenious methods of protecting the injured surface from the contact of the atmosphere, in cases of scalds and burns, the application of a solution of gum arabic, from its simplicity and readiness of application, is worthy of notice. It is perhaps not so readily and universally obtained as the solution of common soap, used by Dr. Williamson (see *Retrospect* Vol. IV., Article 70), or the treacle and water used by Mr. Buller (see Art. 75, Vol. V.), yet when it can be readily and quickly obtained, it will no doubt prove equally serviceable. When the skin is not destroyed, the parts are to be repeatedly smeared over with a solution; as often as one layer is dry another is to be applied, and this may be repeated several times. Mr. Rhind says:]

In those distressing cases of the extensive burning of the bodies of young children, I would not hesitate applying the solution over the whole body, at

about the warmth of 96°. It does not cool down the system by sudden evaporation or sudden abstraction of heat like a common cold fluid, a circumstance in most cases to be dreaded, for gum is a bad conductor of heat; neither does it preclude an exposure to moderately cool air, which seems to keep down the excessive irritation consequent upon extensive scalding of the skin.

As it is of consequence to have the solution prepared instantly, the powdered gum, if it can be procured, may be in a few minutes dissolved in warm water. If this is not ready prepared, the common gum in small particles roughly pounded, will very soon dissolve, and the application in any case may be applied at a temperature of 96° or 100°, although in general it is more soothing when applied colder. Rancid gum solution should not be used, as in this state it has lost its adhesive quality. Two, three, or four applications may be necessary, at intervals of five or ten minutes. The skin should be previously freed of all oily matters, and the first coating, in order that it may be insinuated closely into the furrowed surfaces of the skin, should be rather thinner than the subsequent ones. In order to produce the proper effect, it should form a varnished coat of some thickness and closeness over the whole space of the burnt part.

With regard to the *modus operandi* of this substance, I am as much in the dark as we usually are with the mode of action of most other well-known remedies. I am unable to say whether it has a specific action, or whether it allays the inflammable irritation of the skin, by effectually excluding the external air, and by its being a bad conductor of heat.

The first proposition might be so far tested by trying if other gums and mucilages, or isinglass, for example, produce a similar effect. This I have not tried.

From some experiments, which, however, were never completed, that I instituted some years ago, regarding the influence of oxygen on inflamed tissues and vessels, I am inclined to think that the exclusion of atmospheric air influences very much inflammatory action, and in this way, perhaps, the gum solution checks the inflammation of the skin in burns. Inflammation caused by touching the skin with the nitrous acid and other irritants, appears to be suddenly allayed by a solution of gum arabic; erysipelatous spots on the skin seemed also in some trials influenced by this application. And I may here suggest, that it might be tried in the first stages of the pustules of small-pox, especially those of the face, with a view to modify their developement, and prevent pitting.

Edinburgh Medical and Surgical Journal, Oct. 1842, p. 430.

61.—ON CYSTS OF THE EYELIDS.

By M. Velpeau.

I would say a few words respecting the case of a man, on whom I am about to operate for three small tumors on the eyelid. Of two of these the outline cannot be distinguished, being masked by the third which is more voluminous. This last is evidently a cyst filled with fluid or semifluid material. The nature of the contents of the two others is not easy to diagnose, from their size and the thickness of their walls, but from analogy we may suppose them to be filled with a liquid or semiconcrete matter.

Tumors of this description are very rarely cured by any plan of treatment, except by operation. Occasionally, indeed, they disappear without any operation or treatment. Sometimes they may result from the peculiar constitution of the individual, as in a young subject, who, about the age of puberty, was freed from an affection of this nature. Or, it may be produced by some

other disease occurring at the same time, as in the case of a woman who had had three of these tumors on the eyelid, and on whom I had fixed a period for the operation. But she came to me some months afterwards, and informed me that she had suffered under an affection of the chest, and the tumors had disappeared. Occasionally they disappear under local applications from their resolution, but we can rarely expect success to attend this treatment, and it is altogether ineffectual when they have attained a considerable developement. They may, however, be safely and with certainty cured by surgical means.

Of the two proceedings, extirpation and incision, the former, employed by most surgeons, appears to me a tedious operation. It is necessary to dissect with caution, and if it be a cyst, whatever care is taken it will be difficult to avoid opening it; it then is necessary to excise it entirely, and to apply cauterization, or there will be a considerable chance of return. If the contents of the tumor be concrete, the operation will be comparatively easy; but otherwise, I think the incision is preferable: it is less painful and quite as successful. Some persons in practising this operation hold the tumor with the fingers, others place an elevator beneath the eyelid. I employ simply two pair of forceps, of which one is held by an assistant; I myself, holding the other in such a manner that the eyelid is rendered tense between them, and raised from the globe of the eye. I make the incision, expel the contents, and apply nitrate of silver to the interior of the cavity. There is sometimes slight consecutive inflammation, and the eyelid swells a little, and soon an eschar is detached, and the cure accomplished in eight days. A piece of lint dipped in saturnine lotion or cold water is the only dressing employed. I should, however, observe, that by extirpation the cure is more prompt; a piece of dressing is placed on the wound, and the whole is terminated.

After these observations the operation was performed: M. Velpeau incised the different tumors, and cauterized the bottom of each wound.

Medical Gazette, Aug. 5, 1842, *p.* 732.

62.—USE OF STRYCHNIA IN AMAUROSIS.

A labouring boy, twelve years old, received a blow in the right supra-orbital region, by the falling of a pewter vessel which he was endeavouring to remove from a high shelf. At the moment of receiving the blow he perceived a flash of light in the eye, but could see nothing with it afterwards. In three hours he came under the care of Dr. Dusterberg, of Lippstadt. Immediately above the right eyelid was seen a small blue spot of the size of a horse-bean. In the eyeball itself nothing abnormal could be detected; no trace of opacity or extravasation of blood. The pupil acted naturally, as in the sound organ, but the power of vision was entirely lost in the right eye; so that he was unconscious when it was directed to the full glare of the sun. He was treated for two months with bleeding, cold applications, mercurial frictions, blisters, drastics, emetics, electricity, and even the frontal nerve was divided; but all in vain: the amaurosis did not in any degree yield. Subsequently a solution of a grain of nitrate of strychnia in half an ounce of rectified spirit of wine was dropped into the eye four or five times daily: the result was, that in fourteen days, sensations of light were experienced in the affected eye, which, under the continued use of the remedy, increased so that he was enabled to distinguish colored objects. After a period of three months, the power of vision had so far returned that he could recognise bodies at a distance of three feet. At this point the improvement stopped, notwithstanding the dose of the strychnia was increased, and its endermic application had recourse to. The case, however, may fairly be adduced to show the beneficial influence of strychnia on torpid amaurosis.

Ibid, p. 733.

63.—EXCISION OF THE ELBOW-JOINT.

By M. Robert.

M. Robert presented a woman, aged 26 years, on whom he had practised the operation of excision of the elbow-joint. The disease rendering the operation necessary was caries of the humero-cubital articulation, following a fall on the elbow. There were several fistulous openings about the olecranon. In the fold of the arm were two deep sinuses penetrating into the joint. The soft parts around were moderately engorged. The operation was effected by dividing and reflecting the integuments over the olecranon. The humerus was sawn through immediately above the condyles, the ulna below the coronary process, and the radius just below its articular extremity. The limb was placed in the apparatus of M. Guizot. But little reaction ensued, and the fever and sleeplessness which had previously harrassed the patient ceased immediately. Nevertheless, the suppuration continued a long time, it being impossible to approximate the divided ends of the bones, and the wound was not completely cicatrized for eighteen months. At the time of observation, two years and three months after the operation, it was interesting to observe the manner in which the movements of the fore-arm were executed.

The limb had regained nearly the same size as that of the opposite side. When it was in repose, and hanging by the side of the thorax, there was perceived between the extremity of the humerus and the bones of the fore-arm, a separation of nearly three fingers' breadth, occupied by a dense, but very flexible tissue, which allowed the fore-arm to move freely in all directions. The limb in this position looked as if impotent or paralyzed. But when the patient attempted to bend the fore-arm, the space comprised between the bones of the arm and fore-arm was effaced by the ascent of the latter, which mounted to obtain a fulcrum from the lower surface of the humerus, and the bendment of flexion was then effected, being carried to such an extent that the fore-arm formed a right angle with the arm. The patient could easily carry the hand to the head or to the opposite shoulder, and could raise tolerably heavy weights, as a chair. The power of pronating the hand existed in a moderate degree. The movements of the fingers were perfectly free. She could grasp with tolerable force, bodies placed in her hand, and could hold objects of very small size. For several months she had resumed her occupation as a sempstress; she is accustomed to use her needle with the left hand, holding and fixing the work with the right. To avoid the fatigue which would result from long-continued flexion of the fore-arm, she wears, while at work, a small apparatus composed of two pieces of leather, one embracing the upper, the other the fore-arm, which are joined at the fold of the limb.

Medical Gazette, July 22, 1842, *p.* 654.

64.—TREATMENT OF SORE NIPPLE.

[The ordinary treatment of excoriations of the nipple by the remedies in common use is frequently found to fail. A solution of salt, wine, or even brandy, will often succeed; at other times we may use Goulard's lotion, a solution of borax, in the proportion of a drachm with half an ounce of alcohol in three ounces of water, as recommended by Sir Astley Cooper, or solution of the sulphate of zinc or lunar caustic, or the white precipitate ointment. If these excoriations do not heal they often give rise to *fissures* of the nipples, which are often very deep and cause considerable hæmorrhage and pain. The same remedies as

ter excoriated nipples will here also be found useful, but we shall frequently fail altogether in curing these affections so long as the child is continually being applied to the part. A writer in the Lancet suggests that the tincture of catechu will be found a valuable remedy in such cases. He says:]

Now, you want an application that will not be injurious to the child, and that will thicken and toughen the nipple and the surrounding integuments. It occurred to me that a solution containing tannin might have this effect. I first tried the decoction of oak bark: upon another occasion I applied the tincture of catechu. This answered perfectly: the nipple, which had been intolerably painful for weeks, and was denuded, returned to its natural state within a day or two, and the mother, who was about to wean her child in despair, was able to suckle it for more than twelve months, without any inconvenience.

The tincture of catechu should be applied twice a-day with a camel's-hair pencil.

London Lancet, April 30, 1842, *p.* 155.

[Mr. Chavasse, of Birmingham, speaks highly of the same application, and we also can strongly recommend it from the effects we have seen from its use. The tincture may be applied frequently, and especially after each time the child has been sucking.]

65.—TREATMENT OF GLEET.

By S. E. R. Jones, Esq.

[Mr. Jones relates the two following cases out of numerous others in which he successfully treated this troublesome affection by the injection of the tincture of sesquichloride of iron.]

John Thomson, aged 24, had gonorrhœa eighteen months ago, and gleet continued since; has been under treatment of a surgeon, who ordered cubebs, copavia, &c., but as he was careless of consequences did not apply regularly: he had a discharge of thin white pus when he applied to me. Ordered nitrate of silver and sulphate of zinc injections, alternately to be used, but without effect. I then made use of tincture of iron, gts. xxv. three times a day, and gradually increased to gts. xl.; in a fortnight he was perfectly well; and has had no return since.

Wm. Simpson, aged 21, had gleet twelve months; ordered the tincture of iron, dose, gts. xx. two or three times a day; to be increased to dose, xxxv. After seven or eight days the discharge had nearly ceased; in fifteen days he was cured.

Ibid, July 2, 1842, *p.* 490.

66.—ANTIDOTE TO ARSENIC.

[Dr. G. Bird recommends the following ready preparation of the hydro-sesquioxide of iron as one of the best antidotes to arsenic:—Half an ounce of the tincture of the sesquioxide of iron; one oz. of liquor potassæ. Mix.]

Ibid, Nov. 19, 1842, *p.* 301.

Lig. Kali Carbonici.—D. Emsmann, of Eckartsberge, was called to a young woman who had been poisoned by means of white arsenic. She was in great pain, was vomiting, purging, and suffering great thirst, &c. He gave, every half hour, a spoonful of a mixture composed of half an ounce of the lig. kali

carb. in two ounces of syr. altheæ. The effect was immediate, the vomiting ceased, the pain was relieved, and the other symptoms gradually disappeared.

Dublin Journal of Medical Science, Nov. 1842, *p.* 312

67.—ENLARGED PATELLAR BURSA DISPERSED BY SUBCUTANEOUS INCISION.

[This case was admitted into the city of Dublin Hospital, January 1st, 1842; and after trying various means she submitted to the following operation:]

An incision, to the extent of one-eighth of an inch, was made along the outer margin of the tumor; then a very small bistoury was introduced obliquely into the cyst, at such a distance from the superficial cutaneous incision as prevented the escape of the fluid.

The sac was then cut in several places, chiefly on the anterior surface, and the instrument withdrawn, all the fluid having been evacuated.

A small compress was then applied, and several straps of adhesive plaster, and a roller which extended from the toes to the knee.

A splint was also applied, which extended from the middle of the back part of the thigh to the same point of the leg.

10th.—Dressings were removed: considerable diminution in size of swelling.

Straps of adhesive plaster were again applied nearly in the the same way as that recommended by Baynton. No constitutional disturbance.

14th.—Straps quite loose. A strong evidence of subsidence of swelling.

17th.—Natural appearance of the joint nearly restored.

Discharged at her own request, but strictly cautioned against returning to her usual employment for some time.

Though some cases have been already published by my colleague, Mr. Williams, showing the advantage of adopting the line of treatment now detailed, I have been induced to give this case publicity from the very speedy and satisfactory results obtained in it, in hope that this practice will become more general, as many practitioners are still apprehensive of sinister effects following the line of practice now recommended. If the incision, or rather puncture into the sac, be made with care, the internal surface of the cyst then cautiously scored after it, the fluid evacuated by firm pressure, so as to prevent the ingress of air into the cavity, no danger need be apprehended of unpleasant effects succeeding to this measure.

We all recollect the time formerly occupied in attempting the removal of such swellings by discutient applications, visicatories, and such means of resolution. The only instances in which the subcutaneous incision might fail, are those where the sac is much thickened, its interior loculated, and the cells filled with a thick gelatiniform substance: still, in such instances, it is a means which should be kept in view.

Dublin Medical Press, Oct. 26, 1842, *p.* 262.

68.—ON KERATOPLASTY, OR TRANSPLANTATION OF THE CORNEA.

When the cornea is detached from the rest of the globe of the eye in an animal, and immediately reapplied by means of sutures, it unites again; and the same union takes place, even when the cornea is transplanted from the eye of one animal to another, its transparency remaining uninjured. The first experiments of this kind were made in 1818, by M. Reisinger, of Augsburgh, and repeated, but without success, in 1831, by M. Dieffenbach MM

Himly and Thome, of Bonn, subsequently obtained some satisfactory results; but it was chiefly by the ideas of Walther, of Munich, that the author's experiments [M. Feldmann, in conjunction with Mr. Davis, of Munich] were suggested.

Provincial Medical and Surgical Journal, Nov. 12, 1842, *p.* 132.

69.—ON CATARACT.

M. Bonnet, of Lyons, recommends that the same plan for fixing the eye, in the operation for extraction of a cataract, should be adopted as for the operation for strabismus. He raises and depresses the upper and lower eyelids by means of specula, which are confided to careful assistants, who are directed not to press on the eye. A hook without a spring is next fixed in the conjunctiva above and external to the cornea, and a spring hook is next more firmly passed into the conjunctiva and subconjunctival fascia, a little above the external angle of the eyelids. This last hook is then confided to the assistant, who keeps the upper eyelid supported; the object being to fix the eye and prevent its being carried inwards. The operator then takes the specula on the lower lid in his left hand, and makes the section of the cornea with the keratotome. Sometimes the lens escapes immediately; if it does not, slight pressure on the upper part of the eye will dislodge it; it is rarely necessary to puncture the capsule. M. Bonnet says this operation should be seen to understand the facility with which it is practised. The iris is never wounded, nor, if the assistants are careful, does enough of the aqueous humour escape to flatten the eye. He adds that venesection is not an easier operation. M. Petrequin has operated thus for cataract by depression.

Ibid. August 6, 1842, *p.* 358.

70.—INJECTION OF BELLADONNA IN STRANGULATED HERNIA.

By Dr. F. Fischer, of Tambach.

In September, 1838, a woman, aged 68, experienced a swelling in the right groin, during the occurrence of a severe cough: this was followed by pain and tenderness in the part, vomiting, sleeplessness, and pain in the abdomen. Examination showed a strangulated hernia, which could not be reduced. The author directed injections of belladonna (one scruple of the leaves in each) to be administered. After three clysters the taxis was again employed, and the hernia returned without difficulty.

A man, aged 40 years, had from his youth suffered under an inguinal hernia of the right side, which became incarcerated whilst he was loading a wagon with wood. After taxis, bleeding, cold applications, and other means, had been tried without success, three injections of belladonna were given. The effect of these clysters showed themselves after a while by symptoms of narcotism, as restlessness, delirium, dilated pupil, &c., which subsided under the employment of cold applications to the head. Reduction was then again attempted, and the hernia returned with very little trouble.

Medical Gazette, Aug. 19, 1842, *p.* 611.

71.—ON THE TREATMENT OF HIP-JOINT DISEASE.

By S. Paterson Evans, M.D., Newmarket-on-Fergus.

[After making some judicious observations on the pathology and treatment of this formidable disease, illustrated by an interesting case, Dr. Evans draws the following conclusions:]

1. That *mercury* may be regarded as a *specific remedy* in hip disease.

2. That we may employ it with equal *certainty* and *benefit* in *scrofulous* and non-scrofulous subjects.

3. That it is better to bring the system at once and fully under its action, than to give a *long* and *lingering* alterative course of mercury.

4. That we are on no grounds justified in having recourse, during at least the first or second stage of morbus coxæ, to *issues*, *setons*, *moxas*, or *blisters*.

5. That these violent remedies (?) *protract* the patient's sufferings, *hinder* the disease from being brought to a *favourable termination*, and have a tendency, from the *perpetual pain*, *irritation*, *convulsive* movements of the limb, which they occasion, and *constant suppuration*, to harass the patient's nights, and ultimately to wear out his exhausted frame.

6. That we are now in possession of *facts* sufficient to warrant our *affirming* that *mercury* is the *speediest*, the most *certain*, and the most *efficacious* remedy we possess for the cure of hip disease.

7. That in the majority of cases, mercury alone, when pushed to salivation, will effect a cure. That the application of leeches are occasionally, though not always required, and when any little pain remains at the groin, a small blister will then be of benefit.

8. That rest, the horizontal posture, and attention to diet, regimen, &c., must be strictly enjoined.

9. That by a careful attention to symptoms, we shall frequently be able to diagnose hip disease during an early period of the first stage.

10. That hip-joint disease, if not in all, certainly in nearly all cases, is caused, *not* by *primary ulceration* of the *cartilages*, but by *scrofulous inflammation* of the *synovial membrane*—this morbid state being the first link in the chain of pathological actions.

Lastly. That the diseased limb is *really elongated* during the second stage of coxalgia, and that this appears to be in a great measure effected not by curvature of the spine, &c., but by the pushing out of the head of the femur; this is caused by the inflammation within the joint, aided by the organic relaxation of the surrounding muscles.

Dublin Medical Press, Aug. 17, 1843, *p.* 106.

72.—PRESERVATION OF NITRATE OF SILVER.

By M. Dumeril.

M. Dumeril has for a long time employed a very simple process for preserving the nitrate of silver from the injurious effects of exposure to the air, when run into sticks. It consists in merely coating the caustic with engraver's sealing-wax, which contains a large quantity of shel-lac. This wax adheres very well, and forms a strong and smooth varnish, as it were, which remains unaffected by the atmosphere. Thus protected, the nitrate no longer stains the fingers, injures the caustic-case, nor is in any way changed by the moisture in the air, possesses a greater degree of solidity, and at the same time, the process is of exceeding service in practice, inasmuch as when wanted for use, a small part only of the caustic need be uncovered by means of a penknife, so that its application can be restricted to the part where it is required. This is of peculiar utility in ulceration of the throat, aphthæ, fissures, &c.

Provincial Medical and Surgical Journal, July 2nd, 1842, *p.* 260

73.—THE BILATERAL OPERATION FOR STONE.

[In article 47 of our last volume will be found the excellent remarks of Mr. Lee, on the different operations for stone; amongst the rest he describes the bilateral operation as discovered by Ribes and Chaussier. The following is a more minute description of this operation which is not without its advocates.]

The patient should be placed on a table, with his head lower than his pelvis, so that the region of the perineum and anus may be presented in their full extent, and the pubes be on a nearly horizontal plan. The thighs, of course, must be separated and secured. A catheter with a double groove, one to the right, another to the left, the two meeting at the point of the greatest curve—that is, at the part corresponding to the base of the bulb and membranous portion of the urethra—is next introduced, and confided to an assistant, who at the same time raises the scrotum, and places the skin of the perineum on the stretch. The anus being depressed by three fingers of the left hand, a semicircular or crescent-shaped incision from right to left is made in the perineum, a little above the bowel, dividing the skin, part of the splincter, and tranversus perinei. Its convexity is to be forwards, the concavity towards the anus. The next step is to pass the index finger into the wound, in order to depress the rectum, to make way by the scalpel as far as the membranous part of the urethra, to incise the canal, and prolong the incision right and left in the body of the prostate. The operation is then to be completed in the usual way.

The advantages of the operation are stated by M. Ribes to be, opening a less oblique, more easy and straight route to the bladder, in the course of which no arterial branch is injured, by which hæmorrhage of any importance might be caused, the greater safety of the vesiculæ seminales, and a more commodious and more free aperture for the introduction of instruments, and for the extraction of the stone.

Provincial Medical and Surgical Journal, Sept. 3, 1842, *p.* 446.

[But, although this operation is said by Dr. Ribes to have the above advantages, he does not mention its disadvantages. There can be no doubt that such an operation will expose the rectum to more danger than it will experience from the lateral operation, particularly in old people in whom it is often dilated: although this danger may be considerably diminished by carefully depressing the bowel with the forefinger of the left hand whilst making the incisions. Mr. Liston recommends that when the stone is large and cannot easily be extracted by a lateral operation the prostate should be incised on the opposite side, thus combining the bilateral with the lateral operation. On this practice Mr. Lee says, "Where, however, the bilateral operation seems to be indicated, I should conceive it would be better to perform it in preference to this method of Mr. Liston's, in which the outward wound being on one side, the traction in the removal of the stone must necessarily be made in that direction, and when a large stone is in the grasp of the forceps, would be more likely to occasion injury and laceration of the parts than when the direction of the outward incision corresponding with that at the neck of the bladder. Besides, the majority of operators having once seized the stone, would not stop to make the second incision of the prostate, but would continue their attempts to extract it, and thus risk injuring the parts by the employment of an undue degree of force. Notwithstanding the reports of the success of this bilateral operation in France, we know that these reports of our neighbours are seldom to be depended upon; and therefore, we are sure that the bilateral operation will not often be resorted to by British surgeons."]

74.—TRANSPLANTATION OF A SHEEP'S TOOTH INTO THE SOCKET OF A CHILD.

By Robert Twiss, M.R.C.S., Castle Island, Kerry.

On the 24th of April, 1841, after having extracted the remainder of a broken front tooth from Maria Godfrey, a young lady, aged twelve years, I put in its place the front tooth of a yearling sheep, reeking from the jaw of the living animal, having previously shortened its root about a quarter of an inch. After the first week, during which there was little promised success (the tooth being much too small for the space, and the child not attending to directions), it became more and more firm, with every indication of its having taken root; and by accurate measurement I find it has enlarged, but not so much as it would have done in its pristine state, a circumstance observed in transplanted trees.

Mr. Twiss was led to select the sheep, on account of the extreme cleanliness of this animal, and the beauty and aptitude of the teeth for the purpose. He recommends that teeth be taken only from sheep two or three years old, as at that age they are about the size of adult human teeth, and they are more likely to grow when transplanted. The root, he observes, may be shortened or pared, if necessary, to fit in its new situation. The new tooth may be kept *in situ* by waxed silk ligatures.

London and Edin. Monthly Journal of Med. Science, Oct. 1842, *p.* 932.

75.—REUNION OF COMPLETELY SEPARATED PORTIONS OF FINGER.

By Signor Della Fanteria.

A girl, fourteen years old was engaged with another person in some domestic occupation, when the latter accidentally let fall a knife which cut off two of her fingers below the first phalanx. The author being soon after summoned, found the two pieces in some meal on which the patient's hand was resting at the time of the accident; but he discovered, to his great surprise, that each of them was divided into two portions. However, he determined to try to unite them, and having put the bits together, he kept them all in their places with sutures and strips of plaster. In a few days the adhesion was completed, and the patient ultimately recovered the entire use of her fingers.

It is necessary to mention that the authenticity of this strange case was confirmed by Professors Centofanti and Vacca.

British and Foreign Medical Review, July, 1842, *p.* 231.

[This extraordinary circumstance might be doubted by the English reader, who is so suspicious of many facts related in foreign journals, had he not a corroboration of it in another case related by Graham; who gives a case as follows:—"A joiner, of middle age," &c. (See Retrospect No. III., Article 50.)]

76.—ON A NEW CRANIAL SAW.

By M. Bertherand.

The author has invented a saw for cutting the cranium, in examinations after death, and calls it a *cranial cyclotome*. It consists of a saw, concave at one edge and convex at the other, which, by means of a screw, can be turned on its long handle, so as to present either edge at will in the direction for

cutting. It is also fitted with a copper conductor, which can be worked in the same way, and fixed at any required distance from the edge, so as to prevent the saw from passing too deeply through the skull.

Ibid., Oct. 1842, *p.* 555.

77.—SURGICAL USE OF THE MAGNET.

In the workshops of Fairbairne (in Belgium) there has been recently put up an artificial magnet of great power, at the level of the eye. Every instant one may see a turner, or an adjuster, or some other kind of workman, who has had a particle of iron driven into his eye, running to the magnet, which draws it out as soon as the eyelids are separated and the eye held near its pole. One may conceive from this how a magnet might be made of sufficient power to draw a piece of iron even from the flesh or from the bones.

Ibid, p. 557.

78.—TREATMENT OF LEUCOMA BY INCISION INTO THE CORNEA.

By Dr. Holscher, of Hanover.

Two cases are related in which this treatment was adopted. The case which suggested it was that of a girl, twenty-two years of age, who had lost the left eye from purulent ophthalmia in infancy, and in whom the right was almost blind from leucoma of nearly the whole cornea. Various means had been used in vain. The author, therefore, made an artificial pupil by drawing the iris through the cornea and excising a portion of it. Severe inflammation ensued which was with difficulty managed; but three months after, the patient not only had a good artificial pupil, but the cornea had become less leucomotous, and this especially at the part where the incision through it had been made. The next bad case of leucoma, therefore, which the author met with, he treated as follows:—The patient was a lad fourteen years old, who had lost his right eye from purulent ophthalmia in infancy, and had leucoma of nearly all the left cornea. At four different times, with intervals of eight days, a common cataract knife was passed into the cornea as deep as possible without penetrating it, and was drawn out with a sliding motion. After the first three times no inflammation ensued; therefore, after the fourth, some tinct. opii was dropped into the wound three times a day. Severe inflammation set in, but it was moderated by local bleeding, and the treatment by opium was continued for two months. The leucoma became gradually less, and the patient who could at first only discern light from darkness, became able to guide himself in walking, and to perceive the window-frames in his room. The second case was that of a man forty years old, who had leucoma of one eye from gonorrhœal ophthalmia. It had been variously but vainly treated for a year. The author made incisions into the cornea twice, with an interval of fourteen days. After the second, a tolerably severe inflammation ensued, which required active treatment. As soon as it had ceased, sulphate of zinc and tincture of opium were again dropped into the eye, and after a year and a half, not a trace of leucoma could be seen.

Ibid, p. 558.

79.—ON MATTICO AS A STYPIC.

By W. Munro, M.D., Dundee.

"At the meeting of the Provincial Med. and Sur Association, held at

York in August last, Dr. Jeffreys of Liverpool introduced to the profession an herb called mattico, from South America, as a styptic. A short account of it appeared in the *London Lancet*, January, 1839.—Vide *Monthly Journal*, Sept., 1841, p. 689."

The mattico has been very often used by me in the Dundee Infirmary as an external styptic, but I have not as yet used it internally. It has been very often used to stop the bleeding from leech bites, and uniformly with the most decided success. Leeches were applied, by his own desire, inside the nostrils, to our house surgeon, a stout, florid young man, with head symptoms in fever. The bleeding, which was profuse, could not be stopped by cold applications to the head, plugging, &c.; but the mattico, in leaf, applied over the bites, and pressed on with the point of the finger, proved immediately successful. The application of the leaf caused increased heat and throbbing for five minutes, when all unpleasant symptoms went off. The mattico was applied to a man with a wound of the right temple, in whom a considerable branch of the temporal artery had been divided; the wound was pressed, and a compress and bandage applied, but still the blood burst out. Cold water was several times had recourse to, still the bleeding returned after a while; at last the mattico was used. I stuffed the wound with the powder, but found that it was washed away from the wound in the vessel; I then pressed in several pieces of the leaves, holding them firmly for some time with the point of the finger; and the result was, that we had no more hæmorrhage. We had a somewhat similar case of a man with a wound of a branch of the palmar artery, which resisted graduated compression and bandages, and in which the mattico was used with the best success.

Lond. and Edin. Monthly Journal of Medical Science, August, 1842, *p.* 737.

80.—SUDDEN FORMATION OF CATARACT.

By Dr. Martin, Portland.

A very interesting case of this description is related by Dr. Martin as follows, and we can readily believe in the reality of the circumstance, having had a case a few days after reading the annexed, of nearly a similar description.

Mary Grant, aged 35, of a miserable cachectic habit, after sitting up for several nights with her invalid mother, suffering much bodily and mental distress, and crying a great deal, fell asleep in the sitting posture, by the fireside, at about twelve o'clock, on the night of Friday, October 15, 1841. About four or five o'clock she awoke, and (although her vision was before perfect) she then found herself unable to distinguish any object around her, and when the clearer light of day came, she was but able trace the outline of the window sash. Having applied to me for advice, three days after, I was surprised on examination to find the lens of both eyes semiopaque, and presenting the appearance of being starred from the centre, as if breaking up during maceration. She complained of severe pains in the forehead, jaws, and shoulders—pulse 80, full and hard—tongue loaded with white fur—bowels confined. By means of blue pill, bitters, and blisters to the temples, the pains were removed, and her general health improved, but the lenses gradually became more opaque, and she is now unable to trace the outlines of objects passed before her eyes, although the retina is perfectly sensible to the impression of light. That she had perfect vision up to the night on which she states she became blind, I feel perfectly satisfied, as on that evening having been in attendance, I saw her moving about, and nurse-tending her mother, and I had seen her frequently during the previous month.

He (Dr. Martin) remembered when a pupil to have seen a somewhat ma-

logous case. The man was a patient in Sir P. Dunn's Hospital, and the following was the history which he gave:—He said that he had been married to a farmer's daughter, and after the usual fun of an Irish wedding, he retired to bed, his sight being perfectly good. Very early in the morning he was called by the necessities of nature to the outside of the house, when he became conscious of the loss of sight. Fearing the ridicule of his friends he made his way into the house to where his clothes lay, which he found with some difficulty, and left his bride to wonder at his loss for the next two months. He came up to Dublin, and was admitted into Sir P. Dunn's Hospital, where he was successfully operated on by Dr. Jacob. I need not add that his story was laughed at and disbelieved at the time; but I have little doubt now, that it was analogous to that of Mary Grant. In his case, also, as in that of Mary Grant, the blindness was not complete at once; in the end, however, both lenses became densely opaque.

Dublin Medical Press, May 4, 1842, p. 274.

81.—TREATMENT OF NÆVUS.

By Professor PATTISON, New York.

A. B., a healthy infant, eleven months old, affected with "vascular nævus" on the right shoulder, as large as a pigeon's egg.

Remarks by Professor Pattison.—After mentioning the various means which have been proposed for removing this disease, *e. g.*, excision, vaccination, kali purum, &c., he says, "But by far the safest and most effectual treatment is the removal of the tumor by means of passing repeatedly through it red-hot needles. The principle on which this treatment is based, is of course perfectly obvious, and we will now proceed to its adoption in the present case."

"Operation.—An assistant, by means of a spirit lamp, made the needles red-hot, and they were passed in rapid succession about twenty times into the tumor in all directions. There was no hæmorrhage, and the child apparently suffered very little pain. The operation was repeated twice afterwards, after intervals of a week, and in the course of a month the tumor had entirely sloughed away, and the part healed without a vestige of the diseased structure being left."

London & Edin. Monthly Journal of Med. Sc., June, 1842, p. 558.

82.—ENTROPION CURED BY THE SUBCUTANEOUS INCISION.

By Dr. NEUMANN.

Mathias Zacharsi, eighteen years of age, was affected with entropion of the upper and lower eyelids of both eyes, the result of frequent attacks of scrofulous ophthalmia. From the constant irritation of the eyelashes, the cornea of the right eye had become quite opaque, and only a small portion of the left one remained transparent. The patient could hardly see anything. In order to benefit his sight, if possible, Dr. Neumann performed the following operation: At half-an-inch from the external angle of each eye a small tenotome was inserted, and carried on to the internal angle; the cutting edge of the knife was then turned downwards, and the levator palpabræ and other tissues divided. To prevent the globe of the eye from being injured, a thin plate of horn was placed between it and the eyelid. The muscles of the inferior eyelid were cut in a similar manner, the knife being entered at the puncture in the temple, made for the division of the muscles of the upper eyelid. The eyelashes regained their normal direction. In the left eye

the operation was quite successful, but it had to be repeated on the right in three weeks. The sight of the left eye was completely restored, but only very slight improvement took place in the right, on account of the great opacity of the cornea.

Ibid, Sept. 1842, *p.* 858.

83.—ON HARE-LIP.

By Dr. Houston.

Dr. Houston has detailed in the "Dublin Journal of Medical Science," two cases of hare-lip, in which he operated, introducing a modification of the proceeding generally adopted. The first case was a very troublesome one; the patient, a child two years and a half old, having a double hare-lip, with double fissure of the hard palate anteriorly, but only one in the soft palate. The incisor teeth were distorted. The operation was performed a few days after the child had been admitted into the hospital. The first step was, detaching the edges of the labial fissure from the bones by an incision with a scalpel through the mucous membrane, after which the outer layer of the projecting tubercle of bone was removed by nippers, and the distorted teeth, together with the pulps of the secondary ones, were also taken away, thus making a flat surface and support for the new lip. The edges of the hare-lip were then pared with strong, sharp scissors; there was but little hæmorrhage. The needles employed to bring the wounds together were two long, fine, woollen or darning needles, tempered and filed at the points to the shape of glover's needles. The lower was that introduced first; the point was made to penetrate the skin on the left side, about a line above the free edge, and two lines and a half to the outside of the vertical incision. Thence it was pushed slightly upwards and backwards, so as to appear on the cut surface a little higher than the level of its entrance. It was then pushed through on the opposite side in a similar, but reversed order, and brought out there at a point of the skin exactly opposite to the point of entrance. The two flaps glided readily towards each other on the long, smooth needle, and when made to touch were found to fit with every exactitude, giving to the red border a straight edge below, and forming the lip into a level surface in front. The manœuvre of raising the point of the needle during its entrance insured a firmer hold of the flesh, and, by pulling down the mucous membrane a little, added to the fulness of the lip at that part. The second needle was then introduced in a direction parallel to the first. It entered the skin close under the left nostril, passed through about half the thickness of the flesh of the lip, then traversed the central triangular piece, and came out again under the right nostril. This needle was introduced in a directly transverse course, and not in an arched direction, as practised with the preceding one; and it was not allowed to pass altogether so deeply into the substance of the lip, as by such a disposition a better seat was given to the central tubercle. A high positon was selected for this needle, with the view of closing the fissure into the right nostril as far as possible. Both needles being thus laid in, a thread of silk was twisted several times, first round the upper one and then another round the lower, as in the figure of 8, and both were made subsequently to cross in the centre between the needles, so as to keep the apex of the tubercle in its place, care being taken, however, not to pull them in any degree calulated to approximate the needles to each other. It was found that, by tying the superior needle first, a better adaptation of all the parts of the complicated wound, and a neater arrangement of the red borders was accomplished, than could be by the more usual mode—that, indeed, first attempted—of secur-

ing the lower needle as the primary step in the approximation. The peculiar length of the needles, by lessening their readiness to fall out of the wounds, facilitated greatly the subsequent manipulations of the dressings, and rendered unnecessary the application of a ligature in either of them until the fitting place and direction for both had been determined upon. As final steps, the projecting ends of the needles were nipped off, little rolls of sticking plaster were applied to their stumps, and the cheeks were drawn and held forward by adhesive straps, so as to take off all stress from the needles. No further dressings were applied. In seventy-two hours the dressings and needles were removed, when the union between the wounded surfaces was found to be complete in every part, so as to give a perfectly straight edge to the red border below, and superiorly to close the right fissure a little way inside the nostril. The child left the hospital about a fortnight afterwards, perfectly cured, and with the unseemly breadth of the nose much reduced. The palatine fissures were left untouched. The operation was similarly performed in the other case, one of a single hare-lip with double palatine fissures.

Dr. Houston afterwards examines the question as to what period of life is the best fitted for the performance of an operation for the cure of hare-lip, and he decides in favour of the third month after birth, urging as his reasons that the parts recover themselves better than when the operation is done later in life: that the lip in due time acquires fulness and pliancy; the nose is prevented from assuming a spread-out, ugly appearance; the fissure in the palate, if there be any; closes greatly with the growth, if supported by a firm and perfect lip; bad habits of speaking, such as nasal or guttural utterance, which, if once established, become irremediable, are avoided; and by removing such disfiguration before the child is conscious of its existence, it is spared the feelings of humiliation which the consciousness of such infirmity necessarily imparts, and which invariably gives a tone to the character of the individual. He states that he has operated on several infants of three months old, with equal success in all cases, and has never failed. Dupuytren also recommends the third month, Velpeau the first six, but if they had already passed, he then deferred operating until the tenth or fifteenth year. Sir A. Cooper advised waiting until the patient had completed the second year of existence.

Provincial Medical and Surgical Journal, June 4, 1842, p. 179.

MIDWIFERY.

94.—ON A PECULIAR ANIMAL MATTER (GRAVIDINE) IN THE URINE OF PREGNANT WOMEN.

By James Stark, M.D., F.R.S.E.

[In the Edin. Med. and Sur. Journal for Jan. 1842, is a very interesting paper by Dr. Stark, on this subject.]

After a dissertation on the symptoms of pregnancy during the three first months of gestation, Dr. Stark enters into an examination, chemical and microscopical, to determine the nature of the deposit in the urine of pregnant females, to which the attention of the profession has lately been directed, as being one of the earliest and most trustworthy signs of impregnation. The conclusion at which he arrives, is, that "this substance is a matter *sui generis*; a proximate substance or principle forming in some measure, a connecting link between the albuminous and gelatinous principles." He therefore proposes to call it *gravidine*, both as occurring during the state of pregnancy, and also on account of its falling down to the bottom of the vessel as the fluid containing it cools. Like albumen, fibrin, and caseum, this matter is capable of existing in two states, dissolved or coagulated. If the urine containing the deposit is allowed to stand for from two to six days, a tenacious opalescent pellicle, like congealed fat, rises to the top—this substance called by Nauche *kiestein* (on account of the odour exhaled during its fermentation, and from a supposition that it is owing to the presence of milk in the urine), results from the decomposition of the *gravidine*. During this process of decomposition, the globules of the *gravidine* pass through several changes—urates and purpurates become developed in the urine, and ultimately the triple phosphate makes its appearance, whence the opaline hue of the *kiesteïn*, and the crystalline appearance described by Dr. Golding Bird as one of its characteristics.

[The editor of the Monthly Journal makes the following just remarks on the above:]

Even admitting the existence of *gravidine* as a peculiar principle in the urine of pregnant women, it is too difficult to demonstrate its presence with certainty and facility, to make it very available in every day practice for the diagnosis of pregnancy. Dr. Stark's discovery, however, if real, is a very interesting one, and, like every one of the same kind, must be either confirmed or disproved by other observers. The researches of Donne regarding the proportion of calcareous salts in the urine of pregnant and non-pregnant women, are of more easy application in practice.*

London and Edin. Monthly Jour. of Med. Science, Feb. 1842, *p.* 206.

* For the interesting remarks of M. Donne on this subject see Retrospect, Vol. V. Article 98.

'[The correctness of Dr. Stark's opinion is called in question by Dr. Griffith, resident medical officer to the Finsbury Dispensary, in a paper published in the Edin. Monthly Journal for July, 1842, in which he states that Dr. Stark has been rather too hasty in adding to our list a new elementary substance which he calls "gravidine." We have not space here to give more than the conclusions at which Dr. Griffith arrives, referring the reader who wishes for a more critical notice of Dr. Griffith's objections to the existence of gravidine, to the original paper as referred to below.

Dr. Griffith closes his paper with the following conclusions:]

1. That there exist a large number of globules in pregnant urine. (Dr. S.)
2. That there exists a deposit of lithate of ammonia.
3. That a pellicle of kiestein forms on the surface of pregnant urine as elsewhere stated.
4. That neither the globules, nor the lithate of ammonia have anything to do with the kiestein.
5. That the globules and the lithate of ammonia are totally distinct; that the term "gravidine" cannot be applied to two totally different substances; and that as they can both be accounted for in a simple manner, there is no occasion for the name at all.

I was surprised to find that Dr. S., and even Mr. Letheby (in a late number of the Medical Gazette), deny the existence of the caseous odour. I have so constantly observed this, that I consider it almost as characteristic as the kiestein. I think we can fully account for Mr. Letheby's getting a putrefactive odour instead of the caseous, as he uses too high a temperature.

After all that has been written on the subject, I think we must confess that the peculiarities of the urine in the pregnant female (except the kiestein), are not at all distinctively marked; the formation of the kiestein is the only constant one; the lithate of ammonia, its colour and quantity, must vary according to the state of the skin and temperature of the atmosphere. I think it is the fact of Dr. S.'s not having boiled the sediment in water, and filtered whilst hot, so as to examine the sediment and the globules (separately washed off the filter) perfectly distinctly, that has caused this confusion. To get the lithate pure it should be examined when first deposited, before the kiestein has formed and any of it fallen to mix with the lithate.

Ibid, July, 1842, *p.* 568.

[This paper of Dr. Griffith's drawe forth another from Dr. Stark, in which he very ingeniously defends himself against the objections of Dr. Griffith, supported as he is in these objections by Dr. Golding Bird. We have not space here, however, to enter into a critical examination of the arguments on either side; our practice being as much as possible to avoid all argument, and to present to our readers such matter as is of evident use, and the practical tendency of which cannot be much disputed. Dr. Stark comes to the following conclusion:]

1. That a peculiar animal matter is secreted along with the urine during pregnancy; and that it exists in the largest quantity during the earlier months.
2. That this matter often forms a solid coagulum resembling albumen, when the fluid holding it in solution is long boiled.
3. That this matter is largely soluble in the urine whilst hot, but more sparingly so when cold; that the excess is therefore deposited as the urine cools, along with the usual urinary salts, and forms the chief portion of the natural sediment.
4. That it is the animal matter of this sediment, which, by undergoing certain unknown changes, rises to the surface, and forms there the animal pellicle, known by the name of *kiestein*.

5. That the animal matter held in solution in the urine undergoes the same changes, and that as it also rises to the surface, it contributes to form the pellicle of animal matter.

6. That the animal matter of the natural sediment, that still in solution in the urine, and that which forms the kiestein pellicle, are all composed of globular particles of extreme minuteness and transparency, possessing in all these three states the same size, form, lustre, and general appearance, being only more transparent when in solution; and that the coagulum formed during boiling has the same microscopic character.

7. That the ultimate globular molecules of this animal matter possess the same microscopic characters as the ultimate globules or granules of albumen, caseum, fibrine, and gelatine.

8. That when thrown down from their solution by means of certain chemical agents, deposited naturally, or forming the pellicle, these minute globules or granules often arrange themselves into rounded agglomerations, which can scarcely be recognized to differ from pus or fibrinous corpuscules.

9. That æther removes, as a thick mucilaginous-looking fluid, all animal matters, as albumen, caseum, gelatine, &c., from their watery solutions.

10. That æther has the very same action as the animal matter in the urine of the pregnant female, removing it both from the natural sediment, and from its solution in the clear urine, in the form of a thick mucilaginous looking fluid, when, like that of albumen, caseum, and gelatine, it floats on the surface of the watery portion of the liquid, but is itself covered by the free and pure æthar.

11. That æther has the very same action on the pellicle of animal matter termed *kiestein*.

12. That æther does NOT so remove salts from watery fluids, whether they consist of crystals held in suspension, or are in a state of solution.

13. That the minute globular molecules or granules, of which this peculiar animal matter consists, are rendered more distinctly visible to the microscope when thus removed by means of æther; and no perceptible difference can be detected between the appearance of these molecules removed from the natural sediment, and those removed from the clear urine, or from the kiestein pellicle.

14. That the ultimate globules or molecules of albumen, fibrine, caseum, and gelatine, are also rendered much more distinct in consequence of being removed from the watery solution by means of æther, and when compared, under a powerful microscope, with the ultimate globules of thepeculiar matter of urine, cannot be recognised to differ in any respect, either in size, form, lustre, general appearance, or in the agglomerated forms which they assume.

15. That all saline bodies, which are truly salts, and not animal matter, mistaken for salts, assume the crystalline arrangement, recognisable at least by the microscope.

16. That the matter met with in the urine of the pregnant female, never assumes the crystalline arrangement.

17. That salts undergo complete solution in water.

18. That animal matters are only apparently dissolved in watery fluids, but that their ultimate globular molecules may at all times be rendered at once apparent, by the addition of any agent which will not alter their properties, ut only render them somewhat more opaque.

19. That the animal matters of the urine, those of gelatine, albumen, caseum, &c., are possessed of these peculiar properties of animal matter, and their ultimate globular molecules may in many cases be even seen by means of first-rate instruments, without any additions being made to the fluid which holds them in solution.

20. That former experimentalists seem in many cases (perhaps in all?) to have described this animal matter met with in the urine, as the lithate or

urate of ammonia, from its possessing a few characters in common with that salt; and from the chemical agents employed in ascertaining its presence decomposing that animal substance, and giving rise to the formation of an animal acid—the uric or lithic acid; just in the same way as these chemical agents act on several other substances, converting them into animal or vegetable acids.

21. That this animal matter is probably more easily decomposed by chemical agents, in consequence of its being thrown off as an useless excrescence; its elements being perhaps thereby rendered more disposed to enter into new combinations.

Lastly, That I was perfectly justified in describing this as a new animal matter, and applying to it the term of *gravidine*.

Ibid, Sept. 1842, *p.* 811.

65—PUERPERAL FEVER ARISING FROM THE CONTAGION OF TYPHUS.

By W. E. Humble, Esq., Islington.

[Mr. Humble relates the following interesting case:]

On the 17th of September, 1841, I was requested to see Mrs. L., aged about fifty, a highly respectable person. I found her labouring under typhus fever, complicated with inflammation of the brain; she had already been under treatment for two or three weeks. The head symptoms were relieved by appropriate treatment, but she continued to labour under pure typhus in a very severe form; the teeth and lips were covered with black sordes; the tongue dry and black; the most complete prostration; fæces passed involuntarily; low, muttering delirium; in fact, for some time life was only continued by the constant use of wine, strong beaf-tea, quinine, &c. The exhalations from the body were most offensive. While in this deplorable condition, myself expecting every time I called to find her dead, amongst those who waited on her was her daughter, Mrs. H., the subject of the following case:

Unknown to the rest of the family, she was not only enciente, but had advanced to nearly or quite the ninth month of utero-gestation, for although married, some unfortunate circumstances led her to conceal this fact. Besides waiting on her mother, she at night generally lay down on the same bed by her side, not, however, undressed, and for the purpose of sleeping, but merely to pass, in silent thought, the tedious hours. On the 22nd of September she had been waiting on her mother as usual, at which time her mother was at about the worst, and at night, while so engaged, the pains of labour came on. She did not apprise any one of the circumstance, thinking they would go off, but bore them without exciting any suspicion. The rest of the family retired to rest, leaving her with her mother in the state described. The pains increased, she left the bed, but was unable to reach the door of the room, sank on the floor, and there, without assistance of any kind, and without being able to wake any individual in the house, the child was born. After some time her groans were heard by her sister, who came to see what was the matter, and at last I was sent for at three, a.m. I immediately removed the placenta, and calmed her fears, and had her moved, with the greatest tenderness, out of the room from her mother, from whom the most offensive and putrid exhalations were at the time proceeding.

Having left directions as to the management of the patients, I returned home, and the next morning explained to the friends the imminent danger that threatened Mrs. H., having seen a great deal of puerperal fever among the poorer classes, and found it generally fatal when arising from such causes as this. Feeling confident that it was next to impossible that she could es-

cape a severe attack of puerperal fever, I watched the case most anxiously. The first two or three days passed tolerably well, but ere long the dreaded symptoms showed themselves. I had left directions to be sent for at any hour of the day or night, on the occurrence of any alarming symptoms, but some hours were allowed to elapse between their first appearance and my being acquainted with the fact. I found on visiting her that puerperal fever had, indeed, set in. There was the most intense pain over the abdomen, not confined to one particular spot, and excessively increased on pressure; constant vomiting; rapid, rather small pulse; faintness; great pain in sinciput; tongue becoming covered with white greasy fur; countenance very anxious. These were the chief characteristic symptoms. I at once bled her to a large amount; and it should be remarked that, although I took away from twenty-five to thirty ounces of blood, no fainting was produced. She felt slightly relieved by it, but not to any great extent. I immediately ordered leeches to be applied to the abdomen, a full dose of tincture of opium to be taken, and calomel and opium every two hours. The blood was excessively buffed; indeed, I had it taken to my house, and showed it to two practitioners of old standing, and they acknowledged they had scarcely ever seen so intense a buff

In the evening she appeared rather better, and the vomiting was much abated, but excessive tenderness on pressure remained, and the pulse continued very rapid. I ordered the calomel and opium to be continued every three hours, and turpentine fomentations to be applied to the abdomen, as I did not think she would bear a further loss of blood. The turpentine was applied very assiduously, and the whole abdomen was rendered very sore.

The next day she was, however, better, and, as far as we could judge, less pain was produced on pressure, and the vomiting had nearly ceased. The inflammation extended to the mucous coat of the large intestines, and diarrhœa came on, which was uncontrolled by astringents, but yielded readily to local antiphlogistic remedies. The countenance now reassumed its natural appearance, as it had before betokened the most intense suffering and disease. She continued to improve daily: still, however, great care was required. The vomiting recurred slightly, and was checked by sesquicarbonate of soda and hydrocyanic acid. The alarming symptoms, however, were quite cured, she recovered quite as rapidly as we could possibly expect.

For three days I did not expect that either her mother, herself, or her infant, who was also very ill, would recover. I was, however, not a little gratified to find my anxieties and exertions repaid by the recovery of them all, and they are at this day in good health. Now, the chief points to which I would draw your attention are these: the occurrence of puerperal fever in consequence of being exposed to the noxious influence of typhus, as I had prognosticated, and which, I believe will generally be found to be the case, and notwithstanding the nature of the source of contagion, the evident inflammatory nature of the disease itself, and however much it may differ from sporadic peritonitis, as ordinarily met with in its symptoms, yet that the most active antiphlogistic remedies should be applied at the commencement of the disease, and that they will cut it short. I conceive that when so much discussion and difference of opinion have existed on the subject, this case, eminently successful as regards the treatment, is any thing but devoid of interest.

London Lancet, July 9, 1842, p. 508.

[Although, no doubt Mr. Humble's treatment of this case was very judicious, yet we should hesitate about adopting a similar treatment in *all* cases of the kind that might be brought before us. In many of these cases the symptoms partake more of the typhoid character, and would not bear the depletion which was here adopted. We could not adopt a safer guide

as to the particular kind of practice to be adopted that the *effect* of the remedies which are used. For example, in these cases here alluded to the blood-letting which was copious, did not produce any sensibly sinking effect, and the patient was relieved by it. We might at once, therefore, conclude that the affection was dynamic and inflammatory, but in some of these cases we should find the pulse fail under very slight depletion, which would immediately warn us to desist. We would, therefore, suggest that, before such active treatment as in the above case be adopted, the practitioner ought *to feel his way* by a slight venesection, and if necessary, repeat it copiously or not, as the symptoms indicated, besides pursuing an antiphlogistic or a stimulating mode of treatment, according to the effect produced by the first remedy.]

88.—PREGNANCY WITHOUT THE USUAL SIGNS, AND PARTURITION WITHOUT LABOUR PAINS.

By T. W. Lewis, Esq, Liverpool.

The case was that of a lady, aged 41, who had noticed an enlargement of abdomen for six or seven months. She felt certain she was not pregnant, because she had not experienced symptoms similar to those of her first pregnancy. Catamenia appeared last, eight or nine months ago. External examination not proving satisfactory, examination *per vaginam* was made, which disclosed the nature of the case. The os uteri was dilated to the size of a shilling, the neck entirely expanded, and the membranes and child's head could be felt. Though informed she was pregnant, she was sceptical, and made no preparation for the event.

On January 5th the author was sent for, and found the child born before his arrival; the funis was ruptured about four inches from the umbilicus. It appears the lady had suffered from diarrhœa for two days previous. At one o'clock, a. m., she awoke, she says, with griping pains in her belly; these continued until six, when she got out of bed for ease. She walked into an adjoining room, and, bending herself, rested her hands on the table. Suddenly the waters broke, and the child was expelled, and fell on the floor. She states positively she had no pain in the loins, nor bearing-down pains, previous to the expulsion of the child. The author considers the following facts established by the case:—

1. That pregnancy may occur, and nearly reach its termination, without many of the ordinary signs.
2. That the arteries may contract, like other hollow muscular organs, without the consciousness of the mother.
3. That rupture of the funis is attended with little or no bleeding.

The practical doctrine he infers from it is, that in case of illegitimate births occurring suddenly, and where the child is found dead, the circumstances should be of a very decided character before the guilt of infanticide be fixed on the mother.

London and Edin. Monthly Journal of Med. Science, July, 1842, p. 618.

[Another case somewhat similar to the above, is related by Mr. Cripps, of Liverpool, as follows:—

On Thursday last, at twelve, p.m., I received a message from Mrs. C., living at 4, Tempest Hey, requesting me to hold myself in readiness, as she might soon require my assistance. On inquiry, I learnt that "the waters had just broken, but that there had been no pain:" deeming it prudent, however, under these circumstances, to know the presentation, I went with the messenger, and found my patient (who was a very slender, though

healthy-looking, young woman, ætat. 20) fast asleep. On awaking her, she informed me she had been perfectly well during the day, and had been out until half-past ten. At eleven she went to bed, and soon fell asleep, from which she was aroused by a "gush of water," unaccompanied by pain: it being her first labour she was a little alarmed, and sent a message to her mother, who immediately dispatched the information to me. On examination I found the presentation natural, the membranes ruptured, and the os uteri dilated to the size of a shilling, but no indication of uterine action. I accordingly left, requesting the nurse to send as soon as any "pains" should come on. Between three and four on the following morning (happening to be sent for to see a person in the neighbourhood), I called, and found that she had slept soundly during my absence, but was occasionally disturbed by cramps in her legs, but still no pain whatever in either her back or abdomen. I now, to my surprise, found the *dilatation almost complete*; the finger receiving a sensation of continuous propulsion, without paroxysm or intermission. This singular feature in the case induced me to retain my hand *in situ*; which I continued to do until the child (a full-grown living boy) was born, which occurred in little less than half an hour. Ten minutes previous to this she said she felt "as if something were pressing down, and thought she wanted to go to the night-chair." This sensation, with the exception of the before-mentioned cramps in her legs, was the only approach to pain or inconvenience which she experienced from first to last: indeed, during almost the whole period of labour (if, in this case, the term be not a misnomer) she was asleep. About five minutes after the birth of the child the placenta was expelled, without the slightest effort. On leaving her, she very innocently asked me if she might not get up on the following morning, as she felt as well as ever she did in her life; and I am happy to add, she has so continued up to the present moment.

London Lancet, June 11, 1842, p. 367.

87.—EXTIRPATION OF THE UTERUS.

By M. Rossi.

A woman of a feeble constitution had a good delivery; and the placenta also came away easily.

The midwife who attended her having pushed her hand into the vagina felt a tumor which she mistook for a second child. She accordingly pulled with such force at this tumor, which happened to be the uterus itself, that she tore it from its attachments, and then, by means of a knife, separated it from the vagina and removed it entire. The woman, however, recovered in about thirty days. M. Rossi, who read the history of the case before the medical section of the Congress at Florence, exhibited the uterus which was thus removed. He was far, however, from thinking that the same success would attend the removal of the entire uterus in cancerous affections of that organ, as, in addition to the real difficulties and dangers of the operation, it was often difficult to tell how far the neighbouring organs were affected, or whether the disease might not return.

Edinburgh Medical and Surgical Journal, July, 1842, p. 262.

88.—ON PUBERTY IN THE NEGRESS.

It is a common opinion generally admitted all over Europe, that puberty occurs earlier in hot climates than in those lying within the temperate zone. Muller says, that it is stated, that in the hot regions of Africa, the changes

of puberty take place in the female sex as early as the eighth year, and during the ninth year in Persia. Young Jewesses are also said to menstruate earlier than other females in our own country. This opinion Mr. Roberton, of Manchester, has essayed to controvert, in the belief that it was no other than a vulgar error. To enable him to obtain the necessary information with respect to the negress, Mr. Roberton applied to the superintendents of the Moravian missions in Antigua and Jamaica, by whom registers of births had been kept, the registry being important in fixing the date of the first appearance of the catamenia. From these gentlemen he received the information he desired, and which confirmed him in the belief that menstruation does not commence earlier in the negress than in the white. Out of 21 cases, menstruation appeared in one aged 16, in three at 15, in three at 14, in three at 13, and in two at 12; while it had not appeared in one aged 14, in two aged 13, in one aged 12, in one aged 11, one aged 10, one aged 9, and two aged 8. It is further added, that many cases of negresses, from 8 to 11 years of age, who have not yet had any menstrual secretion, might be added.

Provincial Medical and Surgical Journal, Aug. 13, 1842, *p.* 382.

89.—PLACENTA RETAINED ELEVEN WEEKS.

By Dr. Scholler.

A poor woman, 37 years old, having overexerted herself, was taken in labour in the fifth month of her second pregnancy. A midwife who was summoned tore the funis in her endeavour to remove the placenta, and an accoucheur who was then sent for could not succeed in extracting it. The woman now resumed her usual occupation till she was compelled to seek medical advice by the occurrence of hæmorrhage from the uterus.

Ten weeks after her miscarriage she applied to Dr. Scholler, who on making a vaginal examination found the cervix uteri thick, the os sufficiently open to admit the finger, and the uterus itself felt large and as though it contained a foreign body. The woman was ordered to remain in bed, and to take gr. x. of ergot of rye every two hours. After the administration of twelve doses pains like those of labour came on, and were followed by the expulsion of coagula mixed with fibrous and membranous matters, and having a very offensive odour.

Dr. Scholler now fancied that the case was at an end, and supposed that this was an instance of real absorption of the placenta, but after the lapse of some days, having administered a purgative, pains came on in the abdomen and recurred periodically for some hours, until a thick mass was expelled from the uterus. This mass was ascertained to be the placenta, which had not undergone the slightest decomposition, was hard, surrounded by a coating of fibrine, and shrunk to the size of half a goose's egg. On a section it presented the peculiar structure of the placenta. The patient did well.

The case is interesting in connexion with the question which has been much debated, of the occurrence or non-occurrence of absorption of the placenta in cases where it is retained for a considerable time in the uterus.

British and Foreign Medical Review, July, 1842, *p.* 236.

90.—ON ARM PRESENTATION, IN WHICH TURNING WAS IMPRACTICABLE.

The membranes had given way at nine o'clock of the preceding night, and Dr. Lynn found the right hand and arm protruding from the vagina, the shoulders and part of the thorax and neck of the child being firmly impacted

in the upper part of the pelvis. With every justifiable effort which Dr. Lynn was capable of making, he could not succeed in seizing the feet, but got his forefinger into the ham of the right leg, as it lay bent upon the thigh towards the sacrum of the mother. The author was utterly unable to bring down the leg. He, therefore, now eviscerated the thorax, and with great difficulty succeeded in seizing the right foot, in bringing it down, and in applying a fillet round it. But although he now applied all justifiable traction, he was unable to move the child out of its impacted position. Accordingly, he let out the contents of the abdominal cavity, and with the crotchet brought down the pelvis of the fœtus. The operative part of the proceeding occupied about an hour; not half a pint of blood was lost before or after delivery. This is the third successive unnatural presentation which has occurred to this woman, who, notwithstanding, has made an excellent recovery.

Ibid, Oct., 1842, *p.* 562.

91.—ON HÆMORRHAGE AFTER LABOUR, COMPLICATED WITH DISEASE OF THE SPLEEN AND KIDNEYS.

By JOHN C. W. LEVER.

[Dr. Lever was engaged to attend a lady in her first confinement. Two years before, whilst residing in Lincolnshire, she was attacked with intermittent fever of the tertian type, from which she recovered very slowly. On Dr. Lever's first interview, she complained of great pain in the region of the spleen, which was enlarged. In due time labour came on, and the child and placenta were expelled: the womb remained contracted for about an hour and a half, when a bandage was placed over the abdomen. Some time afterwards, however, although little blood had escaped from the vagina, she was pale and in a state of syncope; the womb had become distended, and several large coagula had been forced out: the womb, however, remained larger than usual. On the fourth day the patient had a severe rigour, which lasted above half an hour, and was followed by considerable re-action. This was repeated on the two following days, and with some irregularity for several days afterwards. Bark and hyosciamus were given, and the rigours were diminished in power.

From this, and some other cases, Dr. Lever draws the following conclusions:]

1st. That in females affected with enlargement or disease of the spleen the uterus is predisposed to dilate, and therefore admits of the effusion of blood into its cavity.

2dly. That the blood so collected, coagulates, and excites considerable constitutional irritation, as marked by the accession of rigours, fever, *&c.*

3dly. That the fever so produced, in course of time (varying in different cases), assumes the intermittent type, especially when the patients have previously suffered from ague. And,

4thly. That such intermittent fever is curable by the same remedies as are successful in the treatment of pure and uncomplicated ague.

Guy's Hospital Reports. Oct 1842, *p.* 339.

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

92.—ON THE SOURCE OF ANIMAL HEAT.

By Professor Liebig.

[We extract the following from a very interesting "Report on the present state of our Knowledge respecting Respiration and Animal Heat, and on Professor Liebig's new Chemico-Physiological Theory, by Robert Dundas Thompson, M.D."; and would strongly advise such of our readers as are interested in such matters, to refer to the detailed account in the Brit. and For. Medical Review, for July, 1842.]

Absorption of nourishment and of oxygen are the first conditions for the sustenance of animal life. During every moment of his existence man imbibes oxygen by his respiratory organs. According to Menzies, a human adult takes up from the atmosphere 850 lbs. of oxygen during the year; and yet at the end of that period his weight remains perfectly unchanged, or only differs perhaps by a few ounces. What becomes of this enormous quantity of oxygen which is thus consumed, is a natural subject of inquiry. No part of this oxygen remains in the body, but it is again discharged under the form of a compound with carbon or hydrogen. The carbon and hydrogen of certain constituents of the body have united with the oxygen absorbed through the lungs and skin, and are expelled in the shape of carbonic acid and water. If we consider, with Lavoisier and Seguin, the quantity of oxygen consumed by an adult daily to be 30½ oz.=15,661 Fr. grains, and reckon the quantity of blood 24 lbs., of which 80 per cent. is water, it follows that to turn the whole of the carbon and hydrogen of the blood into carbonic acid and water would require 66,040 Fr. grains, or upwards of 120 oz. of oxygen; and this operation would be completed in four days and five hours. The food supplies the carbon and hydrogen required in this process. From a carefully conducted set of experiments made upon 856 soldiers, Liebig infers that an adult takes up daily 13 oz. of carbon. This was determined by weighing the food and fæces daily for a month. The fæces amounted to 7 oz. daily: they contained 75 per cent. of water, and the dry residue 42¼ per cent. carbon, 13·15 per cent. ashes; 100 parts of fresh fæces, therefore, contain 11·31 of carbon; or very nearly as much as an equal quantity of fresh meat. The 13 oz. of carbon which are daily taken into the system are discharged by the skin and lungs in the form of carbonic acid. For their conversion into carbonic acid these 13 oz. require 34¾ oz. of oxygen. According to the experiments of Boussingault, a horse takes up, in 24 hours, 74½ oz. of carbon, and a milch cow 56¼. To convert these into carbonic acid the horse requires from 13 to 14 lbs.; and the cow from 11 to 12 lbs. of oxygen. Now as none of the oxygen is thrown off from the system in any other form than that of carbonic

acid and water, and as the carbon and water are derived from the food, it follows that the quantity of nourishment required for the system is in direct proportion to the quantity of oxygen taken up. Two animals which consume in equal periods of time unequal quantities of oxygen by the skin and lungs, require in the same proportion an unequal weight of food. In equal periods the consumption of oxygen depending on the number of respirations, it is clear that in one and the same animal the quantity of food digested varies according to the strength and number of the respirations. A child whose respirations are more frequent must require proportionally more nourishment than an adult, and can less easily bear hunger. A bird dies from want of food on the third day. The serpent which when placed for an hour under a receiver, consumes scarcely so much oxygen as to enable the resulting carbonic acid to be detected, lives for three months and even longer without food. In a state of rest the number of respirations is less than when the body is actively employed. The quantity of food required in both circumstances must bear the same proportion. An excess of food and a deficiency of inhaled oxygen (or exercise), as well as great exercise (which enforces a greater imbibition of nourishment) and weak digestive organs, are incompatible with each other.

The quantity of oxygen, according to the view of Liebig, which an animal absorbs in the lungs is not altogether dependent on the number of respirations, but it is closely connected with the temperature of the inspired air. The cavity of the chest of an animal remains always possessed of the same capacity; at each respiration the same volume of gas enters. But the weight of this volume, and therefore the weight of the oxygen contained in it, is not always equal. When an adult breathes 46,037 cubic inches of oxygen of the temperature 77°, the weight of the oxygen amounts to 30½ oz. But if the same volume of oxygen be breathed at the temperature of 32°, the weight of oxygen will be 32¾ oz. In summer and in winter, at the Pole and at the Equator, we breathe the same bulk of air; and while in summer we inhale in an equal number of inspirations 29½ ounces, the quantity of oxygen inhaled at 33° is 32¾ ounces; in Sicily (at 95) 26¾ ounces; at 14°, 33¾. At a lower temperature we expire more carbon than at a higher temperature, and we must in the same proportion employ more or less carbon in our food; in Sweden more than in Sicily; and in Germany an eighth part more in winter than in summer. Even in comparing equal quantities of food in cold and warm countries, we find the quantity of carbon to be very unequal. The fruits which the inhabitants of the tropics employ contain in the fresh state 12 per cent. of carbon; while the fat and oil of the Esquimaux contain from 66 to 80 per cent. of carbon. There is no great difficulty in practising moderation in warm countries or in enduring hunger for a considerable period under the equator; but cold and hunger soon produce death.—According to Liebig, therefore, the reciprocal action of the contituents of the food and of the oxygen disseminated through the circulation in the body is the source of animal heat.

All living beings whose existence depends upon their absorption of oxygen, are dependent for one source of their animal heat on the atmosphere which surrounds them. This truth applies to all animals. It extends to the germinating seed, to the flowers of plants, and to fruits which are attaining maturity. Heat is only evolved in those parts of animals to which the arterial blood and the oxygen imbibed by respiration are distributed. Hair, wool, and feathers possess no peculiar temperature. The higher temperature of animals, or in other words, the greater extrication of heat in animals, is always the consequence of a combination between a combustible substance and oxygen. For in whatever form the carbon combines with the oxygen, the act of combination cannot take place without the evolution of heat. Whether the union is effected slowly or with rapidity, the resulting heat is ultimately ex-

actly the same. The carbon of the food which is converted into carbonic acid in the bodies of animals must evolve the same amount of heat as if it were burned in the air or in oxygen gas. Animals which breathe rapidly, and therefore consume much oxygen, possess a higher temperature than those which breathe more slowly. The temperature of a child is 102½°, that of an adult 98 to 100°. The heat of a bird is 106 to 109°, and is greater than that of mammiferous animals, which have a temperature varying 99 to 106°; or than that of fishes, whose heat exceeds that of the surrounding water in which it is immersed by only a degree or two. All animals are warm blooded, but it is only in those which respire by lungs that we find their peculiar temperature completely independent of the temperature of the surrounding media. An animal is a heated body which is acted on by the surrounding atmosphere, as all heated bodies are; it imbibes heat when the surrounding atmosphere is hotter than itself, and it gives out heat when the atmosphere is colder. It hence follows that at the Pole, with the temperature below zero, the loss of heat must be much more rapid than at the equator. Yet the blood of the Esquimaux and that of the inhabitants of the tropics possesses the same temperature—a clear proof that the heat must be renewed more quickly in winter than in summer, and more rapidly at the Pole than at the Equator. In different climates it is obvious that the quantity of oxygen consumed in respiration must depend on the temperature of the external air. With the loss of heat by cooling, the quantity of respired oxygen increases. The carbon and hydrogen necessary for combination with the oxygen must vary in a similar proportion. It is clear that the compensating heat will be produced by the reciprocal action of the constituents of the food which combine with the inspired oxygen.

The animal body may in some respects be compared to an oven which we supply with combustible materials. In like manner, whatever forms the food gradually assumes in the body, and whatever transformation it may undergo, the last alteration is a conversion of its carbon into carbonic acid, and its hydrogen into water; while the azote and unburned carbon are excreted in the urine and fæces. To retain the temperature of an oven constant, it is necessary to supply combustible materials in unequal quantities, according to the changes of the exterior temperature. In relation to animals the food is the combustible matter; by the due access of oxygen and the oxidation of the food, heat is evolved. In winter, when by movement in colder air, the quantity of the inspired oxygen increases, the necessity for nutriment rich in carbon and hydrogen varies in the same proportion; and in compensation for this necessity we obtain the most perfect protection against the severest cold. A hungry man shivers; and the animals of prey of northern climates are more voracious than those of southern countries. Our clothing is merely an equivalent for food; in proportion to the warmth of our clothing the necessity for eating diminishes. The quantity of food, therefore, which is used depends on the number of respirations, on the temperature of the air which we breathe, and on the quantity of heat which we give out to the air. No isolated influence can alter this law. The European, when residing in tropical countries, endeavours in vain to stimulate his organs with powerful condiments to imitate the appetite which he indulged in at home. English patients, whose digestive organs are out of order, are sent to southern countries, where the quantity of inspired oxygen is diminished and the nourishment of the body proceeds with less labour to the organs of assimilation. In summer the most prevalent complaints in Germany are liver-diseases (carbonaceous diseases); in winter long diseases (oxygenous diseases.)

The whole process of respiration is clearly exhibited when we take a view of the condition of a man or animal under abstinence from all food. There will be, as before, oxygen abstracted from the air, and carbonic acid and water expired, because the number of respirations remain unaltered. We

know with precision from whence the carbon and hydrogen emanate; and with the continuance of the abstinence we see the carbon and hydrogen of the body diminishing. The first effect of hunger is the disappearance of the fat. This fat can be detected neither in the scanty fæces nor in the urine; its carbon and hydrogen are thrown off by the skin and lungs in the form of a compound with oxygen. It is obvious that these constituents have served for the purposes of respiration. Every day 32½ oz. of oxygen are inspired, and these must remove their equivalents of carbon to form carbonic acid. When this combination ceases to go on respiration terminates—death has taken place. The time required for starving an animal to death depends on its fatness, on the state of its activity, on the temperature of the air, and lastly on the presence or absence of water.

In all chronic diseases death occurs from the same cause—from the action of the atmosphere. When the materials fail which are destined for the sustenance of respiration in the organism; when the organs of the sick refuse to perform their functions; when they lose their capacity to transfer the food into that state necessary for its combination with the oxygen of the air—then their own substance, the fat, brain, muscles, and nerves will be attacked. The peculiar cause of death is, in this case, the process of respiration, the influence of the atmosphere.

Oxidation, not the nerves, the cause of animal heat.—None will deny the importance of the nervous system in the process of respiration, for no change of state can occur in the animal economy without the influence of the nerves. By their action the intestines bring the combustible materials into a condition fit for their combination with oxygen; and in the absence of their functions the whole act of the imbibition of oxygen must assume another form. Yet it cannot be doubted that the influence of the nerves in respiration and in the production of animal heat has been much overrated. Liebig even goes so far as to declare that the idea of the evolution of animal heat by the action of the nerves is an absurdity; for if we exclude chemical action, or changes in the arrangement of the elementary particles as a condition of nervous agency it means nothing else than to derive the presence of motion, the manifestation of a power, from nothing. But no power can come of nothing.

That the quantity of heat evolved by the combustion of 13.8 oz. of carbon is amply sufficient to account for the temperature of the human body, may be readily gathered from the employment of numbers. An ounce of carbon burned would evolve 14207°, and 13.8 oz. would therefore give out 197477.3°. This would suffice to boil 136.8 lbs. of water at 32°, or to convert 24 lbs. of water at 98° into vapour. If we consider then the quantity vapourized through the skin to be in 24 hours 48 oz. (3 lbs.), there will remain 146380° of heat which are dissipated by radiation, by heating the expired air, and by the excrementitious matters. Liebig considers that experiments made upon the quantity of carbonic acid expired by the usual tests are of no value; because so much depends upon the density and temperature of the air, and other circumstances, that it is impossible to calculate accurately. The degree of motion, labour, or exercise, the amount and quality of the food, the comparative warmth of the clothing, and also the time when the food is taken, are important elements in this mode of investigation. Liebig prefers the method already referred to, by determining the composition of the food and that of the excretions. Prisoners in the house of correction at Marienschloss, where labour is enforced, consume 10½ oz. of carbon daily, while in the house of arrest at Giessen, close by the Hessian laboratory, the consumption of carbon is only 8½ oz. The quantity consumed by soldiers engaged in healthy exercise, we have already stated to be 13.8 oz, while in a family of five adults and four children, the average daily consumption of carbon for each was 9½ ounces.

British and Foreign Medical Review July 1842 *p* 208

[Dr. G. F. Collier has disputed the originality of this theory of Liebig's in a letter in the Lancet. He advanced the same opinions so far back as 1834, which were published in 1835, in "Sir John Ross's appendix to the narrative of a second voyage," &c., &c. *See London Lancet, Aug.* 20, 1842. *p.* 724, *and Sept.* 24, *p.* 883.]

23.—INGENIOUS THEORY RESPECTING THE USE OF THE SPLEEN AND VENA PORTÆ.

By Dr. Hargreave, Physician to the City of Dublin Hospital, and Professor of Anatomy in the School of the Royal College of Surgeons in Ireland.

[The following ingenious theory respecting the uses of parts which have excited so much controversy, is given by Dr. Hargreave.]

To establish the correctness of these inferences, it will be necessary to take a review of the anatomy of the vena portæ, particularly in relation to its hepatic and splenic branches, also of the spleen itself. The abdominal portion of the vena portæ is derived principally from three great trunks, the superior and inferior mesenterics, and the splenic vein, besides a number of minor ones received from the pancreatics, gastrics, duodenals, and from the vasa brevia veins. The origin and formation of these veins present nothing unusual from the other veins of this system, with the remarkable exceptions of the splenic, and vasa brevia veins of the stomach: the former, when traced into the spleen, divide into large branches, whose parietes are perforated by large and numerous foramina, which open directly into the cellular structure of the spleen; when the more minute veins are examined, those openings become larger, until finally the veins cease to present any thing of a cylindrical appearance, the parietes of the vessels separating into filaments which do not differ from the parietes of the cells of the spleen, with which they are seen to be continuous. Such a mechanical provision in the splenic veins must admit a free exit to and from their interior into the structure of the organ from which they arise.

The vasa brevia veins are remarkable for the presence of valves in their structure, which open from the stomach towards the splenic vein with which they freely communicate; admitting, by such a mechanism, the free passage of absorbed fluids from the stomach into the splenic vein, and preventing any reflux of the contents of the latter vessel into the stomach. No other vessels entering into the formation of the vena portæ, either as regards the abdominal or hepatic portion of its ramifications, present scarcely a trace of a valve.

When the divisions and communications of the hepatic portion of the vena portæ are examined, it is seen that it divides into two sets of branches—one of them, and the most delicate, are distributed to the pori biliari, and ramify in the cortical substance of the liver—the other set, by far the most numerous and the largest, anastomose freely with the branches of the hepatic veins by foramina of a line in diameter (Meckel); which explains the extreme facility with which the hepatic veins can be injected from the porta, and the latter vessel from the former.

Such a distribution of the vessels of the porta, in its course through the liver, and communications with the spleen by the large splenic vein, indicate the value of this part of the animal economy in affording relief to the cardiac and pulmonary circulations in cases of any irregularity occurring in the course of the blood through the right side of the heart into the lungs, and from them to the left auricle and ventricle. If any impediment is presented to the free passage of the blood through the channels just mentioned, either in consequence of disease, or from too accelerated a circulation dependent

upon any cause, the blood is capable of being regurgitated into the large hepatic veins, which offer every facility for such a course by the numerous and wide orifices opening, almost directly, into the right auricle of the heart, by their permanently patulous mouths, rendered complete by the intimate adhesion between the parietes of the veins, and the dense firm structure of the liver; finally, the reflux of the blood into these veins is favoured in a most remarkable manner by the complete absence of valves.

From the hepatic veins the blood is conducted in its retrograde course into the large anastomosing veins of the vena portæ; while by the trunk of the last vessel it flows along the principal branches of the porta, chiefly into the splenic portion. Should the cause producing the regurgitation of the blood act very energetically, and for any length of time, the blood is shed from the splenic vein into the texture of the spleen, which can accommodate a large quantity of it, where it finds a temporary reservoir until the heart and lungs are relieved from the causes which produced the irregularity in the flow of blood through them, and allows it to resume its usual course.

To accommodate such derivations in the healthy condition of the system, we perceive the necessity of the non-existence of valves in the hepatic and portal veins to permit the reflux of blood through them in the normal condition of the circulating organs. Of what greater value must not such an arrangement be in the abnormal condition of these organs to relieve them from a congestion of blood, which, if long continued, must be attended by very distressing, if not fatal symptoms.

From the structure of the veins now mentioned, it is a self-evident inference that the liver in the first instance serves as a diverticulum to the heart and lungs in the altered states of their circulation, and, if necessary, the blood so diverted from its usual course, will pass from the venæ cavæ hepaticæ into the porta, and thence into the entire of its ramifications, with the single exception of the vasa brevia veins, which, being supplied with valves, will oppose any regurgitation of blood into their interior; the cause continuing to act which produces the regurgitation of the blood it will ultimately find a passage into the spleen, whose cellular structure, together with the peculiar mechanism of the splenic vein, readily admits the blood in the reflux course that has been impressed upon it; and to be shed from the vessels into the spleen, in which particular, it, as an erectile tissue, differs in a very evident manner from the other erectile structures found in the system, which are formed of a congeries of arteries and veins, chiefly of the latter.

The spleen is not alone subservient to the organs now mentioned as an occasional reservoir for their blood; but in certain conditions of the system performs the office for the great systems of the mucous and cutaneous membranes. In cases where the blood is driven from these membranes, either in consequence of cold, or of rigours affecting the general system, it is located for the time being in the spleen; and is subsequently taken up from it by the veins and returned to the general circulation, when the balance is restored to the blood circulating in the mucous and cutaneous membranes. This opinion receives no small support by considering the pathology of intermitting fever; for after repeated attacks of this affection in the same individual, the spleen is always found hypertrophied in consequence of the repeated lodgment of blood in it, which produces such a degree of vital exaltation in it as to cause an increase of growth; or this increase in size can be explained in the following manner:—The blood being at rest in the cells of the spleen, may in part coagulate, and by the repetition of such phenomena, the organ ultimately enlarges and becomes solidified.

That the spleen serves such a function in the adult to the organs now indicated, is corroborated by contrasting it with that of the fœtus; at which period of existence the spleen is not only comparatively very small, but its ves-

sels also partake of this diminution in size, the artery being much less than the hepatic, and the vein of corresponding diameter; it remains thus arrested in its development till after birth, as prior to this period the spleen is not required as a diverticulum for either the heart, lungs, or liver, whose functions are at this time of life comparatively inert, the lungs receiving but a small supply of blood, and the heart not exhibiting the complexity of structure and function which it does in after life; and the liver not so necessary to relieve the heart or lungs of an accumulated quantity of blood which passes with difficulty through them under certain conditions in extra-uterine life.

During fœtal life the relations of the spleen to the mucous and cutaneous membranes are not of that important value to afford *occasional* accommodation to the blood that is normally sent to these membranes; as the temperature of the fœtus is always equable, not dependent upon its own resources, nor directly liable to atmospheric vicissitudes, but is derived from the mother, consequently no irregular distribution takes place in the cutaneous circulation of the fœtus connected with any alteration in its temperature.

That the spleen is in this way closely allied to the two great tegumentary membranes, is I conceive supported by attending to the anatomy and functions of this organ in fishes, in which it is not alone very small, but is also supplied with a minute quantity of blood; its veins are in proportion to the size of the artery; while in these animals their temperature is seldom liable—indeed, I believe, never—to the sudden variations that terrestrial animals are subject to.

The relative smallness of the spleen in the fœtus, besides being subservient to the apparatus already indicated, holds an important relation to the stomach, which exhibits none of those alternations in function that it does in after life, consequent upon the process of digestion: from which it follows as a sequence, derived from the experiments of Bichat, Beclard, and others, that the circulation through the spleen is uniform and regular, offering none of the changes which are witnessed in it during extra-uterine life, dependent upon the varied conditions of the stomach, as connected with its period of distension and emptiness, also of its exalted vitality during the digestive process.

I scarcely consider it necessary to allude to the opinion of Broussais, who considers the spleen to serve as a diverticulum to the stomach and intestinal canal: or to Mr. Hodskin, who looks upon it in the same manner, allowing it but a limited range.

Tiedemann and Gmelin attribute to this viscus a much higher and more important function in the animal economy than that of an occasional reservoir for the blood under certain conditions of the system; they consider it as a large lymphatic gland, and an appendage to the lymphatic system; secreting from the arterial blood a fluid of a reddish colour, which possesses the property of increasing the coagulating powers of the chyle, and rendering it of a deeper colour; their opinion is founded upon the immense number of lymphatic vessels which belong to the spleen, which they suppose convey this fluid to the thoracic duct.

The German physiologists have adduced one experiment in support of their theory; namely, having extirpated the spleen from a dog, after having recovered from the operation he was killed, and on examining the physical properties of the chyle in the thoracic portion of the thoracic duct, it presented a whiter colour than usual, and did not throw down as abundant a clot as it did in animals which were not deprived of their spleen.

Objections, and those of not a trifling character can be brought against the hypothesis of the last named authorities; in structure the spleen does not present the least similarity to a lymphatic gland; the lymphatics which are distributed to it anastomose with the arteries, so it is not too much to infer that they contain a more or less quantity of blood received direct from the

arterial branches distributed to the organ, which will tinge the chyle flowing through the thoracic duct in the normal condition of the system.

From such a communication between the lymphatics and arteries of the spleen, it follows that after the spleen has been extirpated, the source from whence the colouring matter of the chyle is derived being removed, it will no longer be tinged, as it would be, if the organ still remained in the system of the animal; these facts appear to be sufficient to disprove the hypothesis of Tiedemann and Gmelin.

The splenic vein, in addition to its serving the office of returning the blood from the spleen, and under certain conditions to permit the reflux of it into the spleen, answers the purpose of conveying the fluids received into the stomach almost directly into the heart by the medium of the vena portæ and hepatic veins, as the slightest attention to the anatomy of these vessels will establish.

The absorbing powers of the veins being now fully admitted, it follows, when fluids are introduced into the stomach, they are taken up by the vasa brevia veins, and conveyed by them to the splenic vein, by which they are transmitted to the vena portæ, and through the branches of it, which inosculate with the large hepatic veins by the large communications already mentioned, directly to the heart. Such an anatomical arrangement is sufficient to explain the rapid absorption of fluids from the stomach, and their equally rapid discharge from the system by the urinary apparatus, under the designation of "urina potus," without being under the necessity of seeking for any other explanation of a fact of such frequent occurrence. This anatomical structure permits us also to understand the cause why the liver becomes so frequently diseased in those individuals who indulge much in the use of ardent spirit; for it is absorbed direct from the stomach in its almost indulated state, and is transmitted by the splenic vein into the porta to the liver, where it acts in this concentrated state upon the structure of that organ, and produces the morbid alteration known by the term cirhosis, or the whiskey liver. This manner of inducing the disease in question, by the too great indulgence in alcoholic fluids, seems to me nearer to correctness than the opinion maintained by Andral, of chronic inflammation being excited in the duodenal mucous membrane by such pernicious habits, and thence extending along the ductus communis choledochus to the liver, and finally producing the disease.

It also appears to follow from this view of the anatomy of the parts in question, that vinous fluids are absorbed from the stomach, and carried directly by the splenic vein into the porta, and from it so quickly into the general circulation, as in this way to affect the sensorium commune without the intervention of the nervous influence. If the effect solely depended upon the nervous system, it should be more instantaneous than it is; that such is not the case is contradicted by the experience of almost every individual, which teaches that a short time elapses before the decidedly exciting effects of the vinous fluid is rendered evident on the system.

When it is stated that the spleen serves so many purposes in the animal economy, as a diverticulum to the heart, lungs and liver, also to the stomach, and in some cases to the cutaneous and mucous membrane; and that the splenic vein is of such importance in conveying fluids from the stomach into the general circulation, a natural question will suggest itself, how have animals lived in the enjoyment of good health, from which the spleen had been extirpated, if they recover from the operation, of which there are many examples. To this question it can be answered, that such an experiment proves the spleen not to be a vital organ; it can also be adduced as an instance of one of the beautiful examples of the compensating powers which the system possesses within itself, as will enable it still to maintain healthily, the functions necessary for the well-being of the animal. It is scarcely ne-

cessary to cite any proof of such compensating power, which is admitted to exist between the kidneys in the normal state of the system, and between the lungs and the uterus, when the former assume vicariously the function of the latter, and produce a monthly secretion to compensate to the menstrual flux.

What system acts the part of a compensating organ in the animal from which the spleen has been extirpated, and which serves the purpose of a sanguineous recipient to relieve the heart, lungs, and liver in their disordered circulation? In such cases, we still have all the vena portæ (with the exception of that portion of the splenic vein which is given to the spleen), to serve such an office to the animal to compensate for the loss of the spleen.

It may also be asked, should not the spleen be hypertrophied in those instances where there is an excessive developement of tubercles in the lungs, which must act mechanically in retarding the pulmonary circulation: the consequence of which should be a remora in the blood flowing through the liver, and finally in the spleen; this cause existing for some time ought to produce an enlarged condition of it.

Such a result, would, in all probability, be the case, if the individual suffering from this disease was able to take such a degree of exercise, as to send the blood rapidly through the pulmonary circulation, where, being impeded by the tubercular deposit compressing the lungs, and preventing the blood flowing with sufficient rapidity through them, some portion of it would regurgitate, and be deposited for some time in the spleen, so as ultimately to give rise to hypertrophied condition of the organ.

Dublin Medical Press, Aug. 10, 1842, p. 82.

RETROSPECT.

When the reader has carefully read the foregoing pages, he must acknowledge that the practical improvement and suggestions in the treatment of disease which have been put on record within the last six months, have been neither few nor unimportant. It has been our endeavour to present these in as concentrated a form as they would properly admit of. Some of our articles have been unavoidably lengthy on account of their importance and interest: but we think that nothing superfluous has been introduced into any part of the present volume, and nothing but what is of a truly practical and useful tendency.

One of the most useful remedies in medicine is the nitrate of silver; whether we regard its use externally or internally, we must look upon all improvements in its mode of application as very deisrable: the form of *nitrate* as an external application has not been improved, neither is it necessary, as its qualities in the present form are such as we require. As an *external application*, however, nitrate of silver has been greatly extended of late, and especially since some able publications on its use in different diseases. In *stricture of the urethra*, it has long been used, acting, not as is commonly supposed, by destroying the stricture, but "by inducing some change in the vital actions of the part, which is followed by relaxation of the narrowed portion." In *fissured or excoriated nipples*, it is occasionally very useful, and certainly superior in many cases to the tincture of catechu, which has lately been so praised in these affections. In *porrigo*, the solid nitrate of silver, by being well rubbed on the part, will seldom fail in either curing the affection or considerably improving it—the cauterization should be repeated at intervals of a few days. In *psoriasis* and *impetigo*, it has also been found useful; but more especially in erysipelas, both when rubbed on the sound skin round the inflamed portion so as to separate the latter from the former, and also when rubbed all over the inflamed surface. In *affections of the mucous membrane* of the mouth and fauces, it is occasionally an invaluable application. "When the fibrinous exudation of croup commences on the surface of the tonsils and arches of the palate, its further progress may be stopped by the application of a solution composed of a scruple of nitrate of silver and an ounce of distilled water. The solid nitrate has been introduced through an aperture in the trachea and applied to ulcers on the inner surface of the larynx, in a case of phthisis laryngea with apparent benefit.* A case of diphtherite illustrating its good effects on the mucous membrane of the throat is related in the American Journal of Medical Sciences, for April, p. 498, in which Dr. Gibbes applied a *saturated solution* with benefit, to an ulcer half an inch in diameter, over the left tonsil and to the fauces, by means of a small sponge, which was thrust far back into the pharynx. Every application was attended with relief, and it was repeated every two or three hours when the albuminous accumulation was present (*Art.* 29).†

* See Dr. Pereira's excellent work on Materia Medica, p. 696.

† The different figures introduced, refer to the articles in this volume, where the subjects spoken of are particularly dwelt upon.

We might go on enumerating its good effects in *leucorrhœa*, *gonorrhœa*, both in the male and female, *diseases of the eye*, *variolous pustules*, *punctured wounds*, &c., &c., but our object here is chiefly to point out its advantages in those *gastric affections* which so often baffle our efforts at relief. In *epilepsy*, *chorea*, and *angina pectoris*, its good effects have been related by certain authors, but we should not depend upon its use in these cases. In affections of the stomach, however, its powers are of no low order; especially where we find present, cardialgia and pyrosis, intestinal spasm followed by nausea, and pyrosis, gastrodynia, irritability, accompanied with gnawing, constant pain, and nausea, &c. In all these cases we shall afford great relief by giving a quarter, half, or a whole grain twice or three times a day. But the dread of discolouration has always been a draw back to its continued use, and has prevented its being given in sufficiently large doses in many cases where the usual small doses have been useless. For this reason many attempts have been made to give it in different chemical combinations, and various theories have been formed respecting the process of discolouration, which is carried on in the skin. Some of these theories we have noticed in our first article; with respect to Dr. A. T. Thompson's theory, that the *nitrate* is taken into the circulation undecomposed, and arriving in that state in the capillaries is there decomposed and converted into the *chloride*, which becomes blackened, we would observe that, if the nitric acid which he advises to be given with the nitrate, proves of any use, his hypothesis will be overturned; for we suspect that nitric acid will have but little influence on the action of the compounds of chlorine or the salts of silver, nor can it dissolve the white chloride or the black sub-chloride. Mr. Lane believes, in common with many other writers, that the nitrate is changed into the chloride by the free hydrochloric acid of the gastric juice, that it then becomes taken up into the circulation, and when conveyed to the cutaneous surface is converted into an *oxide* by the action of light and the strong affinity for albumen. He, therefore, *anticipates* this oxidation by giving the *oxide* of silver instead of the nitrate: and in many respects this is an improvement; especially in cases of epilepsy, chorea, &c., where we have to continue its use for a considerable time—but in gastric affections, where its use need never be continued for any great length of time, we doubt whether the recent theories and new chemical combinations in which the old remedy is given, will prove advantageous. There must, however, always be a certain degree of fear and responsibility on our minds when giving this remedy, and we ought as much as possible to adopt the most prudent course; for this reason, Dr. Patterson has advised that the *ioduret* of silver be used instead of the nitrate, which he states to be equally efficacious and free from all risk of discolouration, however long continued. His theory is, that the discolouration is most probably owing to the decomposition of the chloride of silver circulating in the cutaneous tissue through the chemical action of the sun's light, and the deposition there of its *metallic basis* —and, therefore, he thinks if we can procure a preparation of silver which cannot be acted upon by chlorine nor by the sun's light, we shall be in the possession of a perfectly safe medicine: such he esteems the *ioduret*. His observations will be found more in detail in our first article. He gives it in doses of from one-eighth to one-fourth of a grain three times a day which proved rapidly beneficial in gastric affections; but in epilepsy it was necessary to persevere for a considerable time in doses of one-quarter of a grain, then half a grain, and ultimately grain doses three times a day. The general dose, however, seems to have been about a quarter of a grain: and we suspect that if this preparation is not easily acted upon by the free hydrochloric acid and chlorides in the stomach, it will be more certain in its operation and will not require the variable and large doses which the nitrate frequently requires, from its being so readily acted upon by the chlorides and the free hydrochloric acid so often existing in the stomach. Before concluding our remarks on

this substance, we must remember that the stomach will generally bear a much larger dose in the form of pill than in that of solution, in consequence probably of the latter acting on a larger surface. Dr. Powel found that in some cases he could give fifteen grains in the form of pill, while he found that, in solution, five grains were a full dose. These doses, however, are seldom called for. (1.)

Affections of the kidneys are perhaps occupying as much, if not more, of the attention of the profession than any other disease. Their anatomy, pathological appearances, and their peculiar uses in the system, are becoming more interesting and better understood: and there is no doubt that we can frequently arrive at a more accurate diagnosis respecting the generality of diseases from examining the states of the urinary excretion, than from any other single symptom. Every practitioner ought, therefore, to be well acquainted with the standard authors on this subject, and more especially with the writings of Dr. Prout. The deposition of *oxalate of lime* has not been particularly noticed by any author with whom we are acquainted, and yet, from the observations of Dr. Golding Bird, this deposition may prove a very valuable indication of disease, and of the most suitable treatment, especially in certain obscure and tedious affections generally referred to dyspepsia, hypochondriasis, and other diseases characterised by great nervous irritability. So far from this deposit being uncommon, Dr. Bird affirms that "it is of more frequent occurrence in urine than the deposits of earthy phosphates." The way in which he detects the oxalate of lime is minutely described at page 14 of this volume: we need, therefore, only refer the reader to this description. It seems never to subside so as to form a distinct deposit, remaining for days diffused through the fluid, even when present in so large a quantity that each drop of urine when placed under the microscope is found loaded with the crystals; when these crystals have been collected in a watch glass, they remain unaltered by boiling either in acetic acid, or solution of potass, whereas in nitric acid they readily dissolve without effervesence: this is an important thing to be remembered in the treatment of these cases.

Dr. Bird also observes that no instance has yet been perceived of a complication of this oxalic affection with granular degeneration of the kidneys, and in no instance has he found sugar present in oxalic urine, although he thought at first, with all other medical men, that there must be a close connexion between the presence of saccharine matter and oxalic acid. There seems every reason to suppose, however, that the oxalate of lime found in urine owes its origin to sugar, and that the origin of the evil exists in the digestive organs. It seems almost certain that in all cases where the oxalic urine is formed, there is some serious functional derangement in the digestive organs, especially of the stomach, duodenum, and liver; and that the quantity of the oxalic acid formed can be either diminished or increased very considerably by diet alone. An excess of urea, and often of uric acid, generally accompanies the formation of oxalic urine, and we may therefore suspect that the same morbid influence is connected in the formation of these substances; and as there is a very remarkable chemical relation existing between urea, uric acid, and oxalic acid, the former being readily converted into the latter, Dr. Bird suggests that the disease under consideration ought to be regarded as a form of *azoturia*, of which an excess of urea is the prevalent indication) in which the vital chemistry of the kidney has converted part of the urea into oxalic acid. Professor Liebig traces the oxalic acid to the oxidation of uric acid, and not, as Dr. Bird does, to the re-arrangement of the elements of urea giving up at the same time an atom of oxygen. Such questions as these, however, are more interesting to the chemist than to the practical physician. Whenever a patient applies to us with symptoms for which we cannot account, such as remarkable depression of spirits with a melancholy aspect, emaciation, nervousness, hypochondriasis, general debility, irritability of temper,

deficiency of sexual desires, sense of pain or weight across the loins, with well marked symptoms of dyspepsia, it is our duty to make particular inquiry respecting the urine, as the presence of oxalic acid will at once point out to us a very important indication of treatment. The treatment will consist in removing exciting or depressing influences, protecting the skin from sudden changes of temperature, a carefully regulated diet consisting of about equal proportions of animal and vegetable food, and the administration of nitric acid or the nitro-hydrochloric acid, in small doses in some bitter infusion. Ten drops of nitric acid, and the same quantity of hydrochloric acid in an ounce of infusion of serpentaria may be given with great benefit three times a day, with a pill at bed-time occasionally, of extract of aloes, gr. ij.; conf. opii. gr. iij.—wine and beer must be in general abstained from, but if a stimulant is necessary let it be old sherry. Colchicum will be found to exercise a marked influence over the characters of the urine, exerting an immense influence over the organic system of nerves and the functions under its control: an excess of uric acid will generally be found present during its administration: and in two cases of Dr. Bird's, in which oxalate of lime existed in abundance before its employment, uric acid soon appeared as a deposit and nearly entirely replaced the oxalate; but generally the cases yield rather slowly. (2.)

The general treatment of gravel has been well and briefly pointed out by Dr. Watson, in his lectures, in the Medical Gazette. We have given many of his remarks on this subject, not from any particular novelty contained in them, but because the subject of gravel, simple as it seems to be, is not sufficiently studied by the generality of practitioners, who frequently rest satisfied with observing a red deposit, and endeavouring to counteract it by giving alkaline medicines, without particularly discriminating between the different deposits which are liable to occur in the urine. It is, perhaps, generally known that healthy urine exhibits acid properties, turning litmus paper red; not that it contains a free acid, but that certain of the alkaline and earthy bases are not exactly neutralized, but exist in the state of supersalts. The pure lithic acid is nearly insoluble, but the lithate of ammonia is very readily soluble, and it is this which reddens the vegetable blues; and whether out of the body or within it, the lithate of ammonia will of course be decomposed if any acid be present in the urine; for which, ammonia has a stronger affinity than it has for lithic acid, and the lithic acid will be thrown down in the form of red sand, very much like particles of cayenne pepper. If, therefore, we find the urine thick and muddy, with a reddish sediment, we may suspect that it is owing to the lithate of ammonia; the pure lithic acid at other times showing itself in the form of the fine sand above mentioned, or in larger crystals. The urine, in these cases, is more acid than usual, and gives to litmus paper a deeper shade of red; it is generally accompanied, too, by a tendency to feverish and inflammatory complaints. Alkaline remedies are in these cases called for—the bicarbonates of soda and potash. Now, it is important to know, that the potash is a preferable remedy to the soda; inasmuch, as soda will sometimes combine with the lithic acid and form an insoluble salt; whereas, with potash, there is not this danger, the resulting salt being perfectly soluble, and passing away dissolved in the urine. Another kind of gravel or sand which is found in urine, is rather *white;* and denotes an alkaline or neutral state of the excretion, and is chiefly owing to the triple phosphate of ammonia and magnesia. It is of the greatest importance, in a practical point of view, to know that this *white gravel* generally accompanies a debilitated condition of the system. It is found in persons who have been weakened by toil and mental anxiety, or by insufficient nourishment; in persons who are cachectic, sallow, languid, and spiritless. "As the urine cools, the white sand is thrown down, and in many cases a sort of film is formed on the surface of the water. If we skim the pellicle off, by placing a bit of paper under it, and then suffer the paper to dry, we may easily see the little

crystals." The urine soon grows putrid, and even ammoniacal, in smell. Although the urine, even these cases, is often *very slightly* acid, yet it is sometimes so alkaline as to turn turmeric paper brown; and we must be careful how we depress the vital powers. We must abstain from giving alkaline or saline draughts, colchicum and mercury, from active purgatives and bleeding; and we must counteract the phosphatic diathesis by generous diet, tonic medicines, bark and wine; the muriatic and nitric acids are given with vast advantage, and opium has a wonderful effect in assisting these medicines to restore the acid properties of the urine. We should be particularly aware of the effect of these remedies, as it is generally admitted that it is a much easier thing to render acid urine alkaline than to render alkaline urine acid. The *oxalic* diathesis is another common form of this affection, in which there is a tendency to the formation of the oxalate of lime, or *mulberry* calculus. This kind of excretion we have already noticed. In the treatment of all these kinds of gravel we should never forget the necessity of well regulated exercise, which has at all times a wonderful effect on the kidneys, especially when the lithic acid diathesis prevails: diet, also, is equally important. (3.)

The treatment of acute pneumonia, from the prevalence and danger of that affection, ought to be thoroughly understood by every practitioner. It is briefly and judiciously described by Dr. Hughes, who is accustomed "to bleed the patient to syncope; to administer a pill containing half a grain of opium, and a quarter of a grain of tartarized antimony, with one or two grains of calomel every three, four, or six hours, according to the severity of the symptoms. With this is given a saline mixture containing twenty or thirty minims of antimonial wine." Venesection is repeated in a few hours or days if the symptoms return; but of course in a cautious manner, or probably by cupping or leeches instead of by the lancet. M. Louis asserts that early blood-letting never arrests the disease, and that it only shortens its duration by four or five days. We feel convinced, however, that free blood-letting ought seldom or never to be neglected, as distension of the great pulmonary plexus of blood-vessels is the first condition of the disease. We doubt the propriety of invariably giving the opium recommended by Dr. Hughes:—no doubt it is frequently advisable, but we should prefer, if possible, depending upon blood-letting, tartarized antimony and mercury without the aid of opium. The peculiar effect of tartarized antimony in subduing inflammation, independent of its emetic, nauseating, or diaphoretic powers, was first pointed out by Dr. Marryatt, of Bristol: and in this remedy we certainly possess a power which is not duly appreciated by the profession. Laennec gave the medicine in doses of from one to two and a half grains, but in this country it is generally given in doses of from half a grain to two grains every second, third, or fourth hour, according to the severity of the symptoms. Vomiting may be produced at first, but the system soon bears the medicine without this effect being produced: in fact it is surprising what large doses may at last be given, Laennec often giving twenty grains daily without producing sickness, pain, or diarrhœa, and even without causing loss of appetite or the power to digest the food: ten or twelve grains a day, however, are generally sufficient even in bad cases, and much smaller doses frequently suffice. We must remember, however, always to continue the medicine for some time after the apparent amelioration of the general symptoms, and it must not supersede further bleeding if more urgent symptoms require it. In the slighter cases of pneumonia, however, where the system is not in a condition to bear the abstraction of much blood, as in children, where it may be combined with bronchitis, the pure antimonial treatment is of incalculable advantage, and ought chiefly to be depended upon. (4.)

The reader will find an interesting account of the Indian hemp, by Dr. O'Shaughnessy, in article 72, of Retrospect No. II. At that time its powers had not been tested in this country. He gave this medicine with excellent

effect in cases of tetanus, hydrophobia, cholera, rheumatism, and in such diseases as were attended with a high state of nervous irritability, convulsions, and pain. Its powers have since been tried by several eminent physicians, and especially by Dr. Pereira, who has published an interesting account of it in the last edition of his work on Materia Medica. Dr. Pereira seems to think that its powers have been overrated, as in his hands it did not produce those striking effects described by Dr. O'Shaughnessy, but attributes this failure, in some measure, to the deterioration of the drug either in its passage from India or from the mode of its preparation: "ten grains of *churrus*, (which is the concreted resinous exudation from the leaves, slender stems, and flowers), were given in fine powder to a small terrier with his food. In fifteen minutes he appeared somewhat drowsy. In fifty-five minutes he would sleep as he sat and nod forward or to one side so as nearly to fall. When roused, however, he appeared quite well, but when left alone he soon fell asleep again." In another experiment, "four grains of an alcoholic extract of *gunjah* (which is the dried hemp plant, from which the resin has not been removed, chiefly used for smoking in Calcutta), were given to a girl aged 14, affected with a convulsive disorder, partaking of the character of both chorea and hysteria. She was troubled with a spasmodic action of the diaphragm, and had been for several days and nights without sleep. About half an hour after taking the third four-grain dose the spasms entirely ceased, and the patient complained of vertigo and head-ache. The pulse was ninety-three, soft and regular. She fell into a tranquil sleep in which she remained for several hours. When she awoke she had no spasms, but complained of head-ache and vertigo. Some days afterwards convulsive movements appeared in other muscles. The extract was again resorted to, but its effects were never more than palliative, although the dose was increased to thirty grains twice, and even thrice. Other experiments are related in which its effects were not obvious." (p. 1098.) Its anti-convulsive powers, however, are undoubted, and we have no doubt that further experience will enhance its value in the eyes of British practitioners. In a case related by Mr. Ley, in which the slightest motion was attended with great pain and spasms of the muscles of the back, the latter being so violent as to draw the body into the form of an arch, it produced a remarkable degree of relaxation of the muscles. He gave a grain and a half of the extract every half hour, and its effects were strikingly evident after the fifth dose; the muscles became relaxed and the patient fell into a tranquil but overpowering sleep of ten hours' duration; she then awoke with little exhaustion, and pleased beyond expression at the relief she had received. In a case of chorea, in a girl twelve years of age, Mr. Ley gave half a grain of the extract three times a day for three days, when the girl was overwhelmed with fear, the muscles, which had been affected with rigid spasm, became relaxed, the power of speech returned, and at the end of a week or ten days she was perfectly recovered. But although relaxation of the muscles followed the exhibition of the medicine in all cases, it did not always effect a cure of the disease which produced the muscular spasm. It generally, however, produced an alleviation of the painful symptoms. In a case related by Mr. Ley, in which a coachman, by the constant use of his arm, presented a swollen, hard, and stiff state of the muscles of that limb, with an enlarged bursa on the olecranon, three grains of the extract caused a wonderful abatement of the symptoms by the next morning, together with considerable diminution of the enlarged bursa. In another case of severe sprain of both wrists, in which the patient had lost the grasp of his hand, and where the wrists were distended with very much fluid, both in the joint and under the flexor tendons, a grain of the extract was given three times a day for three weeks with considerable relief. In a case of the *crowing-respiration* in a child nine months old, the sixth of a grain of the extract was given, and the little patient fell into a tranquil sleep, and on

awaking had not its usual spasmodic attack; the dose was continued three times a day for a week with very considerable benefit. Might not this medicine have been a valuable addition to the treatment of this disease, related by Dr. Marshall Hall, in article 45? (5.)

In cases of incontinence of urine in children, which arise so frequently from either excessive irritability of the parts, or from the want of power to perform the necessary functions, Dr. Guy has found great benefit to arise from a combination of tincture of cantharides and opium, or hyosciamus, at the age of thirteen or fourteen, in the dose of four drops of the former with ten drops of the latter, four times a day, and five grains of the compound rhubarb pill, every night. This practice may be improved by applying a blister to the sacrum occasionally, and attending particularly to the emptying of the bladder at stated times. (6.)

The treatment of acute hydrocephalus in children is generally very unsatisfactory; and the want of discrimination between this inflammatory kind of disease and the hydrencephaloid affection described by Dr. Marshall Hall, which arises from exactly opposite causes, has produced the most fatal errors of treatment. In the former, depletion may be borne in the early stages to a very considerable degree even in young children; in the latter cases this depletion will certainly prove fatal, and render all subsequent treatment abortive. The usual means of treating the acute and inflammatory form of the disease is ably described by most authors, such as *blood-letting*, either by the lancet, cupping, or leeches; *cathartics*, so strongly recommended by Dr. Abercrombie in all head affections, who even says, "Although blood-letting is never to be neglected in the earlier stages, more recoveries from head affections of the most alarming aspect, take place under strong purging than under any other mode of treatment;" *cold applications, antimonials* and *mercury;* but we think that the preparations of iodine have not yet had sufficient trial in this country; and if we may judge from the effects of the iodide of potassium in cases related by Dr. Roeser and Mr. Fluder, we ought to place more confidence in this remedy, in a disease which puts at defiance most of our other preparations. We will remind the reader, that we gave an account of the effects of this medicine at page 53, of our 4th Vol., where Dr. Roeser is said to have given it with great success in a case where the child lay insensible, with pupils fixed and dilated, complete paralysis of the right side, and frequent automatic movements of the left leg and arm. A drachm of the iodide of potassium was dissolved in half an ounce of distilled water, and of this thirty drops were given every hour to a child two years old; this was continued for a week, and then for four days more, half the quantity was given. The child completely recovered. In the case related by Mr. Fluder, there was strabismus, laboured respiration, convulsions, with complete opisthotonos. He gave half grain doses every two or three hours with complete success. He relates other cases of a similar description where the same treatment was equally satisfactory. (7.)

The value of the internal exhibition of sulphate of zinc has not yet been duly appreciated; it has hitherto been chiefly given as an astringent on the alimentary canal, checking secretion, and with a view of promoting a *constipated* condition of the bowels; in urethral and pulmonary affections, as well as a valuable emetic; but its powers in renewing the tone of the muscular fibres, and in controlling the calibre of disordered portions of the intestinal canal, in *curing constipation* where purgatives cannot be borne, instead of producing it, as most authors affirm, and in constringing the mucous follicles, and thus diminishing the secretion of gas, or quickening its absorption, have but seldom, if ever, been alluded to, by authors. Alum is given in Paris to a considerable extent in painters' colic, and its beneficial results may be owing to its local tonic or astringent effect on the bowels, which have been almost paralyzed by the action of lead; and it is no doubt a most

valuable tonic in these cases after the bowels have been freely opened; it produces a chronic contraction of the intestines, and may be given with this view, in 10 grain doses, three times a day. With the same view the sulphate of zinc may be administered; but the use of the latter drug may be extended to a variety of cases, and may prove a more valuable tonic in such affections than the alum; especially in flatulent affections of the colon, and in constipation. Cullen, himself, states that "flatulent symptoms are to be referred to the loss of tone in the muscular fibres of the intestines, rather than to any fault in the digestive fluids." When we consider the happy improvements in modern medicine, in curing congestions, commonly called inflammations, by the local and direct application of stimulants, as nodes by blisters, ulcerated cornea and conjunctival inflammation by the nitrate of silver, &c., we may see how the sulphate of zinc may act upon the debilitated and distended parietes of the intestines, and on the distended capillaries which supply them with blood; and, "if the tissue of our hollow organs obeys the same laws that regulate our external parts, and Medicine will take a hint from Surgery, perhaps it may not be presumptuous to anticipate the substitution, ere long, of prompt astringents for the tedious formulæ of tonics, in certain cases of dyspepsia," &c. The sulphate of zinc should be given in the form of pill, in order to avoid its disagreeable taste, and its nauseating effects when given in solution; it should also be given upon a meal, in doses of about three grains, four or five times a day; if the stomach is very irritable, a very small quantity of opium, a quarter or half a grain may be combined with it. The colon is generally the part most implicated in flatulence and constipation; it is the part where the intestinal contents linger for hours or days, and perhaps for weeks, and therefore it is upon this part that the sulphate of zinc will especially act with advantage; and the main object being to throw at once a strong solution into the cœcum and large intestines, and since small doses only can be passed through the stomach, they must be made to succeed each other rapidly; and regarding this practice as a kind of stimulating lotion to a relaxed part, we cannot consider 20 grains, which is often as much as can be retained, as but a small quantity to be applied to the enormous surface presented by the colon. Dr. Warren, of Taunton, recommends alum whey in these cases, where a tonic colonic dyspepsia exists, in conjunction with gentian and other tonics. (8.)

Chlorine seems to be becoming a favourite remedy with many practitioners, and not without good reason, in scarlet fever and other diseases, where contagious poison may be the cause or concomitant of the affection. An easy way of preparing it is by dissolving two drachms of the chlorate of potass in two ounces of hydrochloric acid, previously diluted with two ounces of distilled water. The solution must be immediately put into a stoppered bottle, and kept in a dark place. Two drachms of this solution mixed with a pint of distilled water, constitute the chlorine mixture, of which a tablespoonful or two, according to the age of the patient, may be given for a dose, frequently. It is probable that its disinfecting properties may in part account for its beneficial effects. The chlorine has a strong affinity for hydrogen, and it may be by abstracting this gas from its putrid miasmata, and noxious substances, that it acts so beneficially; and with this view, chlorine fumigations are so strongly recommended by Professor Daniell, on board ships destined for the western coast of Africa, (see Retrospect IV., Art. 112.) Or it may be that by the affinity of chlorine for hydrogen, the decomposition of aqueous vapour is effected; the nascent oxygen thereby oxidizing the organic matter, and destroying any deleterious effects which it might have upon the system. Either of these hypotheses would explain many of its beneficial effects, and especially those experienced in cynanche maligna, in which fearful disease the system seems to be re-inoculated with the poisonous secretion from the throat. (9.)

The intimate connexion between plethora and apoplexy which exists so often, has too long blinded the eyes of practitioners to the fact that exactly opposite causes may produce similar effects; and hence we too often find, that when a patient is seized with a fit of apoplexy, whatever be the cause, whether owing to plethora or exactly the reverse, the practitioner—as well as his kind neighbors—thinks he is neglecting his duty if he do not bleed the patient copiously, and employ other means of depletion. It is now, however, becoming better known, that inanition and anæmia, morbid conditions of the stomach and intestines, dyspepsia, cachexia, gout, hypertophy with augmented impulse given to the arterial blood, or indilatation of the heart and disease of the valves impeding the reflux of the blood along the veins, may all be causes of the affection, and will require different modes of treatment. We ought to remember, in short, that apoplexy may be caused by anæmia as well as by plethora; such a case is related by the late Dr. Denman; it occurred in the midst of exhaustion from protracted uterine hæmorrhage, and a clot of blood was found in the cerebrum; another case is related by Mr. Travers, which occurred under the actual use of the lancet, and during the flow of blood from the arm. Even in cases of injury of the brain, as in concussion, too much venesection, may give rise to symptoms which it will be difficult to distinguish from those produced by the accident itself. Sir Benjamin Brodie remarks on this subject, "Where bleeding has been carried to a great extent, symptoms frequently occur which in reality arise from the loss of blood, but which a superficial observer will be led to attribute to the injury itself. Repeated copious blood-letting, is of itself adequate to produce a hardness of the pulse which we shall in vain endeavor to subdue by depletion." And almost every practitioner is aware, how many cases of paralysis, apparently resulting from apoplexy, arise from a waste of nervous matter, or from a too great exertion of the mental power; "almost every act of the mind," says Dr. Carpenter, "is inseparably connected with *material* changes in the nervous system," and hence "the more prolonged and energetic the operations of the mind, the greater is the *waste* of nervous matter, which is evinced by the presence of an increased amount of phosphates in the urine, and by the demand for fatty matter, which is employed in the renovation of the tissue."* The appropriate treatment in these cases is judiciously pointed out by Dr. Marshall Hall in article 10.

Dr. Chambers's method of treating acute rheumatism, published by the late Dr. Hope, is now pretty well known, and we need therefore only refer the reader to the article in the present volume (art. 12), which gives a summary of it. After a full venesection, or even two, in the robust, but without any in the feeble and delicate, eight or ten grains of calomel, with a grain and a half of opium, according to the age of the patient and the severity of the

* Dr. Carpenter remarks on this subject—"The peculiar ingredient of the nervous tissue, is a *fatty acid*, containing a very small proportion of azote, but united with a considerable amount of phosphorus. The amount of change which takes place in this or any other tissue, may be estimated in two ways—first, by the appearance in the excretions, of its peculiar ingredients, set free by decomposition;—and second, by the demand set up for the materials of its re-formation. Now, it is well known, that, when the nervous system has been in unusual activity, there is a marked increase in the phosphatic deposits in the urine; and, as the quantity of phosphorus in any other of the soft tissues is very inconsiderable, it is scarcely possible to attribute this liberation of phosphorus from the system to any other cause than the *waste* of nervous matter,—that is, its decomposition, resulting from the discharge of its vital function. Again, the close chemical relation between nervous and adipose matter, corresponds exactly with the old observation, that persons of "nervous temperament" are seldom or never fat; whilst those of inert bodily and mental habits are much more subject to this deposit. Since nervous matter is chiefly formed out of the same elements as those which would otherwise be employed for adipose tissue, it appears probable that the demand for these occasioned by the continual use of the nervous system, prevents the deposit of fat; whilst it inactively allows their accumulation in another form."—*Dublin Journal of Medical Science, Nov.* 1842, *p.* 296.

case, are administered every night, and followed every morning by a strong black dose, sufficient to insure four or five stools, at least; with this is combined, thrice a day, a saline draught, containing from 15 to 20 minims of vinum colchici, and five grains of Dover's powder. The calomel is omitted if it subsides, or the gums become tender. The opium, however, is continued in grain or grain and half doses at bed-time, and even at noon if necessary, together with the colchicum and black draught, as at first. The patient will generally be cured in a week. (12.)

The young practitioner is frequently at a loss to account for cases of bleeding from the urethra, and he may not be able at once to remember the opinions of standard authors on the subject. He may not know where the blood comes from, whether from the bladder, the urethra, the ureters, the prostate, or the kidneys; and his ignorance on this point will necessarily involve indecision in his treatment. One of the simplest means of knowing whether or not it be real blood which tinges the urine is to gradually boil the liquid. If it contain blood, a greyish brown flocculent precipitate, consisting of coagulated albumen tinged with the colouring matter of the blood will form and gradually subside, leaving the supernatant liquid clear and of its natural tint. Dr. Prout states that "when blood is derived from the kidney, it is in general equally diffused throughout the whole urine: on the contrary, when derived from the bladder, the blood for the most part comes away in greater or less quantity at the termination of the discharge, the urine having previously flowed off nearly pure." When the blood proceeds from the urethra, it will generally come away *guttatim*, or in a stream unmixed with urine, and neither preceded nor accompanied by any desire to make water. But there are many cases where it is almost impossible from the absence of pain, &c., to fix upon the part whence the blood arises, and in these doubtful cases it will probably be found that the kidneys are the organs giving rise to it, from the existence of earthy concretions, which we know may form in the kidneys in great numbers, and to a considerable size, without furnishing any signal, except that of hæmaturia, which may lead us to suspect any mischief.

The *treatment* of hæmaturia must be exceedingly various. When the bladder is so distended that complete retention of urine takes place, recourse must be had to a large eye catheter and an exhausting syringe, by the aid of which, and the occasional injection of cold water, the coagula may be broken down and removed. If the hæmorrhage returns, injecting cold water into the rectum or bladder, and, if necessary, from twenty to forty grains of alum in each pint of water may be used. Dr. Prout says this seldom fails, even when the cause is malignant disease. Among internal remedies, *Ruspini's styptic*, recommended by Sir Benjamin Brodie in his published lectures, is no doubt a valuable medicine. Dr. A. T. Thompson says this consists in a solution of *gallic acid* in alcohol diluted with rose water. The French are very fond of the extract of *rhatany* root, the *krameria* of our Pharmacopœia. Dr. Watson gave this to a female in scruple doses three times a day, and the hæmaturia ceased after the first dose, although the affection had resisted treatment for some weeks. *Gallic acid* enters into the composition of this vegeteble extract, and it is worthy of notice, that gallic acid is one of those substances, which, when introduced through the digestive organs into the blood, passes through the round of the circulation unchanged, and reappears in the urine: it is therefore proved to be a most useful astringent in more cases of hæmorrhage than those which arise from the urinary organs. The styptic virtues of the uva ursi, bistort, tormentil, pomegranate, kino, catechu, and the several preparations of gall-nuts may likewise depend on the same principle, or rather, probably, on the *tannin*, as this exists in much greater proportions than gallic acid in most of these substances, although the medicinal effects are alike. In one hundred parts of rhatany root, Gmelin found thirty-eight

parts of tannin, and Peschier forty-two parts. Hence we find its value, not only in internal hæmorrhage, but also in profuse mucous discharges, passive hæmorrhages, as metorrhagia and in relaxation and debility of the solids. But in those mucous discharges which proceed from chronic affections of the urinary organs, we shall find that uva ursi and pareira brava are the two most valuable of our medicines. When combined with hyosciamus and persevered in for a *considerable time*, Dr. Prout says the uva ursi is of the greatest use: on the other hand, Sir Benjamin Brodie places much more confidence in pareira brava, which he uses with the greatest benefit in cases of "*discharges from the urine-genital mucous membranes;* in chronic inflammation of the bladder especially, Sir B. Brodie thinks it has the greatest influence, "lessening very materially the secretion of the ropy mucous, and diminishing the inflammation and irritability of the bladder also." He gives it in the form of a concentrated decoction with tinct. hyosciam., and where there is a deposit of the triple phosphates, he accompanies it with the muriatic or diluted nitric acid. His formula is, half an ounce of the root in three pints of water, boiled down by gentle simmering to one pint: of this eight or twelve ounces may be taken daily. (13.)

While on this subject we will refer to the papers of Dr. Walker, of Huddersfield, and Mr. Soden, of Bath, who have found such an excellent effect in some affections of the bladder from a combination of benzoic acid and copaiba, which succeeded in some cases where the uva ursi and pareira brava had failed. Our readers will remember the interesting article we published in Retrospect No. IV., by Dr. Ure, on *hippuric acid*, which is formed in the system by the exhibition of benzoic acid. When benzoic acid or a soluble benzoic salt is taken, it changes the uric acid of the urine into this hippuric acid; and it has been discovered that the hippurates of soda, ammonia and potash are much more soluble than the salts which uric acid forms; hence in some states of the urine the formation of hippuric acid as a substitute for the uric acid is of the greatest consequence, and considerably facilitates the cure. When the benzoic acid is combined with copaiba, it has been found both by Dr. Walker and Mr. Soden to be superior to the uva ursi and pareira brava in many cases of great irritability of the bladder accompanied with mucopurulent discharge. A drachm of benzoic acid, with half an ounce of balsam of copaiba, made into an eight ounce mixture with the yolk of an egg, will be found an excellent remedy. Two table-spoonfuls may be given three times a day. (57.)

Dr. O'Beirne, of Dublin, has advanced some very ingenious speculations supported by very excellent cases in order to show that the different forms of dropsy depend upon *venous obstruction*, and that the great remedy to be depended upon, even in the most extreme cases where the powers of the system are almost exhausted, is blood-letting, and supporting the patient at the same moment with stimuli such as gin and water. Blood-letting indeed, is one of the oldest remedies which has been tried from the time of Hippocrates downwards, but so conditionally, as frequently to destroy its efficacy. At the same time we are not prepared to go the lengths of Dr. O'Beirne in his very clever speculations, nor coincide with him as to the universal or general adoption of blood-letting in this often most mysterious and troublesome malady. This treatment is no doubt the most direct and certain way of unburdening the loaded veins, and relieving the venous obstructions which very frequently produce liquid effusion, but it certainly is not adapted to all forms of dropsy. "It will always, indeed," as Dr. Watson says, "remove a portion of the aqueous ingredient of the blood, but it expends at the same time its fibrin and its red particles; it impoverishes the circulating fluid, and so enfeebles the patient. Perhaps by rendering the blood more watery, venesection may indirectly favour the transudation of the serum outwards whenever the venous current happens to be retarded, but it certainly weakens the cen-

ral organ of the circulation; and to muscular debility of the heart we have seen that certain forms of general dropsy may owe their origin—and thus it is that ill-timed or excessive bleeding may be the cause of dropsy. In these forms of anasarca, instead of robbing the veins of their blood, we seek to repair the quality and richness of that fluid, and so to restore the deficient vigour and tone of the whole muscular system, and of the heart in particular." Dr. O'Beirne, however, endeavours to answer the different arguments against his peculiar views, and he certainly does so very ingeniously. He shows in the first place, that the exhalants are intimately connected with the venous and not with the arterial system; thus, when arteries are tied they rarely pour out any of their contents, but relieve themselves, by the enlargement and anastomosis of their small lateral branches; and when not tied, but much distended, their minute branches pour out either blood or coagulable lymph, *not serum*: while veins being very distensible, rarely relieve themselves by their small lateral branches but by extension of their coats, and if that prove insufficient by the effusion of *serum, not of blood*. And as he supposes that venous obstruction is the cause of dropsy, he endeavours to prove that all those diseases which cause this affection are sufficient to cause, and really do produce this venous obstruction—for example, that as the causes of *hydrothorax* are chiefly diseases of the lungs, heart, liver, spleen, &c., all these affections cause obstruction in some of the great venous trunks, and consequent distension of their parietes and exhalation of serum into the serous cavities, which serum is not effused so much at the point of obstruction as at an infinity of points the most distant from it; that is from the numberless exhalants connected with the minute radicles of the obstructed vein.

In connexion with this subject he offers a very ingenious theory respecting the uses of the spleen, which is much the same as the one entertained by Professor Hargrave, and published in the Dublin Med. Press, for August 10, 1842.

He arrives at the conclusion that this viscus in the healthy state is contracted and at rest, that it contains no more blood than is poured into its cells, after becoming venous, by its nutritious arteries; and that it performs no function but that of a *reservoir* for the relief of overloaded states of the vena cava inferior and the whole portal system. This is easily seen to be probable when we remember that the venæ cavæ hepaticæ enter the vena cava inferior just as it is passing through the tendinous opening of the diaphragm, that their mouths are large and always wide open, having no valves and consequently admitting of reflux, and that the powers which propel the blood of the portal system are very feeble compared with those which propel that in the inferior cava, all which circumstances seem to show that the venæ cavæ hepaticæ as well as the rest of the portal system, instead of offering resistance, are constructed not only to facilitate but to provide for determination towards them: the blood of course would easily find its way along the splenic vein into the spleen, and this organ would thus act as an immense and most important reservoir to relieve venous obstructions almost throughout the whole system, either immediately or collaterally.

With the views of Dr. O'Beirne as to the nature of dropsy, it follows that the *treatment* will consist in relieving the venous obstruction, and as this cannot easily be done by removing the pressure we must relieve the distended veins by blood-letting; but we cannot agree with him that "we have only to remove the venous obtruction in order to remove the disease;" as the diseases attending hydrothorax and other kinds of dropsy are often incurable: at the same time we consider that his reasoning and his facts are very striking, and ought to be seriously thought of by the profession. He justly observes that the immediate effects of the first bleeding are to relieve the absorbent system, and enable it to restore the effused serum to the circulating mass of blood, a proof of which we see in the sometimes rapid reduction in the coal-

ling and œdema of the external parts: but we ought to remember that the system is not re-invigorated by the absorption of serum in proportion to the previous debilitating effects which result from the loss of its fibrin and red globules—the blood-letting ought, therefore, to be proceeded with cautiously, and if necessary gin and water may be given at the same time. The bleeding may be repeated, when absorption and the secretion of urine become languid; but it will rarely be required to do so more than three or four times during the treatment, the interval between each bleeding being about two, three, or four days, so as not to induce debility; and for the same reason, the quantity of blood taken should be reduced in succession, from eight or ten to six, and from six to four ounces, the last being the smallest that can be of any decided benefit. The gin and water should be used in the proportions of one part of the former to four or five of the latter, and the gin should be Dutch, not English; this gin is selected on account of its well known diuretic properties. If a case (of hydrothorax, for example), should occur in which the patient is evidently dying from difficulty of breathing, yet not comatose or paralysed, the fluid should be partially evacuated, so as to relieve the symptoms, and wine and water, and every restorative means employed, and when absorption has gone on for a few hours, it is probable we might find a vein from which we might bleed, in the horizontal position. The venous obstruction would thus be relieved, and we might at the same time support the patient by animal food and the occasional use of gin and water. When this kind of case follows an attack of inflammation of the lungs, the animal food and spirit should be withheld for a few days, or longer, if necessary. (14).

From the investigations of Dr. Clay, of Manchester, we are led to think that inspissated ox-gall will prove a very useful addition to our list of remedies in cases of dyspepsia, and for most derangements of the alimentary canal, where "*deficiency in quality or quantity of bilious secretion is the prominent and prevailing accompaniment.*" The recent gall of the ox is to be slowly evaporated to the consistence of an extract, and if sufficiently firm, it may be made into three or four grain pills, two of which may be given three times a day; and if not firm enough, sufficient magnesia may be added for the purpose. Ox-gall is by no means a new remedy; but Dr. Clay has certainly thrown a good deal of light on its remedial powers. In *dyspepsia* we think it worthy of extensive trial. Where there exists acidity after taking food, violent headache, pain in the epigastric region, obstinate constipation, and where purgative medicines produce great irritation and uneasiness, a few doses of the ox-gall pills will probably produce a gentle and copious evacuation, with considerable relief to the other symptoms. In obstinate and habitual constipation, two four-grain pills may be given three times a day with great benefit, and continued for a longer or shorter time according to circumstances. Dr. Clay thinks that the action of the medicine is not as a cathartic, "but as a direct solvent to the accumulated hardened fæcal mass, the consequence of deficiency of quality or quantity of bile in the alimentary canal." It is also found to counteract in a great measure the constipating effects of opium, which drug not only checks the secretion of bile, but almost all the other secretions of the body. In many of the affections of the alimentary canal in children, especially in marasmus, it may prove a valuable remedy; also in acidity of the stomach, curdled vomitings, green motions, and abdominal pains. From the experiments of Baglivi, Lewis, &c., "it prevents milk from turning sour, and dissolves it when in a state of coagulation;" and may, in this way, prove serviceable to children. (16.)

From the extensive use of *cod-liver oil* on the continent, and especially from the observations of Drs. Acherson and Klencke, we must now regard it as an *anti-strumous* agent of some value. It is not thought that the therapeutical action of the oil depends upon the iodine it contains, but upon its oleaginous nature, and its general character as an animal oil. It is said to replenish the

blood with an energetic and rich plasma. *Skate liver-oil* is said to be equally efficacious and less disagreeable: and Dr. Ure has suggested *cod-livers* as a diet for those patients who are recommended to take the oil. The livers are to be cooked in the way he directs, so as to coagulate the albumen of the liver, and thus prevent the escape of the oil. (17.)

The remedial powers of *creosote* have certainly been overrated by many writers: it has been given too indiscriminately. Dr. Cormack thinks that "it resembles prussic acid in its sudden depressing action upon the heart, as well as in the temporary nature of its toxicological operation;" and that in medicinal doses it is sedative and calming, but evanescent in its effects, and requires therefore to be given in *often repeated small doses*. It seems to be somewhat similar in some of its effects to nitrite of silver, being an irritant and caustic in large doses, and combining readily with albumen like that substance. May not its sedative and beneficial effects in chronic irritability of the stomach, and in the vomiting of hysteria be attributed to this circumstance? Its efficacy in arresting hæmorrhage from small vessels is often remarkable, and depends on this union with albumen, thus forming a crust. (18.)

The use of the potatoe in sea-scurvy has been known for many years—since the publication of Sir G. Blane's work on the Diseases of Seamen, in 1760—but we believe its use has been very limited, not so much, probably, on account of its inefficiency, as from the existence of more anti-scorbutics. In fact, the dietetic remedies and preventives for scurvy are now so numerous, that out of all our vegetables, we may ask which is not anti-scorbutic? We find this virtue not only in lemons and oranges—which are our best preventives—but also in most sour fruits, as grapes and apples; in plants comprised in the order *cruciferæ*, in which most of our common vegetables are included—as the cabbage, turnip, radish, water-cress, &c. And we should think that the plan pursued by Sir Edward Parry, both a very amusing and efficacious method of obtaining fresh vegetables for a small number of men. He was accustomed to raise a quantity of mustard and cress in his cabin, in small shallow boxes filled with mould, and placed along the stove pipe, so that in the severity of winter at the Pole, he could insure a crop at the end of every six or seven days; and by keeping several boxes at work, he could give two or three scorbutic patients nearly an ounce of fresh salad daily. It ought, however, to be more generally known in the navy, that the common potatoe, whether boiled or raw, but especially when raw, and sliced like cucumber, and mixed with a little vinegar, is a most valuable anti-scorbutic. (21.)

A good deal has lately been written on the effects of acetate of lead on the system. It is only within a recent period that its remedial powers have been properly tested, on account of the fear of its poisonous qualities. In Art. 32, Retrospect No. I., will be found a very interesting paper by Dr. Henderson, of Edinburgh, showing the good effects of acetate of lead in bronchitis, in restraining the abundant secretion by which the bronchial tubes are loaded and the respiration greatly embarrassed, and especially when these symptoms occur in children. The administration of this medicine is to be limited to that period of bronchitis in which the secretion is copious; and the quantity of the secretion need be the only guide as to the time of giving it. He gives it, in children, in doses of a quarter, half, or a whole grain, from eight to ten times a day, when the secretion is copious: and in one child, six years old, he gave as much as four scruples in ten days. In an adult, he would give about ten or twelve grains daily, in doses of from one to three grains, with a few grains of the compound ipecacuanha powder, and sometimes with a little squill. In a paper by Dr. Barton, Physician to St. Thomas's Hospital, the effects of this medicine are carefully described. (See Art. 89, Retrospect No. II.) One patient took 208 grains in twenty-six days; another

180 grains in twenty-nine days; and a third 295 grains in thirty-three days, without any particularly bad effects. In another interesting paper on the same subject, (see Art. 10, Retrospect, No. IV.) Mr. Sweeting agrees with other authors, that the medicine has hitherto been given in inefficient doses, and with objectionable combinations. He gives five grains every two, three, or four hours, according to the circumstances. He rubs up the dose with a few drops of concentrated pyroligneous acid, in order to insure a complete solution of any carburet of lead, adds a little distilled water, and filters the whole through paper. The effect of this medicine in his hands, in a case of uterine hæmorrhage, shows its value. He gave her five grains of the diacetate every hour, for twelve hours, and then every four hours for the next twenty-four. In our present volume, Dr. Lane is said to have given the medicine in ten grain doses every four hours, in a severe case of menorrhagia, which had continued some time, and resisted all other remedies. It was cured on the seventh day. Dr. Lane moreover says, though we should be afraid of following his advice, that a *drachm, or even two*, of this medicine, might be given with perfect safety in *desperate* cases. Its power in arresting hæmorrhage is certainly very great; probably from its supposed influence in producing a contracted state of the coats of the arteries; and this effect is likewise, no doubt, extended to the secreting and exhaling vessels, the discharges from the mucous membranes, the exhalation from the skin, and the urine being diminished in quantity. If *colic* arise from the use of this medicine, *alum* will be found very successful. Given in full doses, as from a scruple to two drachms, every three or four hours, it will often allay vomiting, mitigate pain, and open the bowels better than any other medicine. (39)

M. Payan states that we may find ergot of rye very useful in paraplegia. When we consider its effects, not on the uterus only, but also on the rectum, bladder, and lower extremities, and, indeed, occasionally on the whole system, causing the patient to feel universally *benumbed*, as she frequently expresses herself, followed by powerful excitement; we must suppose that it acts primarily and especially on the spinal cord: and we may consequently believe that in some cases of paraplegia it will be found useful. (40.)

In the *crowing respiration* of infants, sometimes called "*thymic asthma*," or "*laryngismus stridulus*," Dr. Marshall Hall recommends the *daily* lancing of the gums, whether inflamed or not. Dr. Henderson recommends an opium liniment with croton oil to be rubbed on the spine. In many of these attacks, as well as in many other convulsive diseases of children, we think the *Indian hemp* might be made available, especially if the preparation could be depended upon. Its anti-convulsive powers are certainly very great, and have never yet been thoroughly tested in this country. In a case related by Mr. Ley (see page 34), "Whenever the child awoke from sleep it was seized with a spasm which drew back the head, flushing of the face, stopping the breath until it was drawn in with the peculiar crowing respiration." He gave it the sixth of a grain of the extract, which was followed by tranquil sleep, and mitigation, though not a cure, of the symptoms. (45.)

We cannot pretend, in this recapitulation, to enter into all the improvements and suggestions which have been recently made in the treatment of stricture of the urethra. It is a subject which has lately employed the pen of the most practical man in our profession, Sir Benjamin Brodie; and his remarks are so pithy, practical, and so much to the point in every line and page which he writes, that we can only refer our readers to the 45th article in the present volume, taken from Dr. Johnson's Review, for one of the clearest and shortest accounts of this important subject, which we possess.

The treatment of the hæmorrhagic diathesis has lately engaged the attention of many practitioners; especially since several cases of hæmorrhage have been recorded, in which all the means that could be thought

of at the time have been tried in vain. Mr. Miller has written a good paper on this subject. He supposes that this diathesis is connected both with the blood and blood-vessels, and that a deficiency of fibrin, as well as of the blood corpuscules, increasing as the bleeding continues. But it is a curious fact, that in a case of hæmorrhage, the globules of the blood are removed *at first* in a greater proportion than the fibrin: and consequently, at an *early* period, loss of blood favours coagulation by increasing the proportion of fibrin to globules, but ultimately both these constituents becoming diminished, and the serum preponderating, coagulation is more and more difficult. But not only does a small quantity of fibrin in the blood diminish its power of coagulation, but it also occasions congestion of the capillaries, as a certain degree of viscidity has been found by Pousseuille, to favour the passage of fluid through capillary tubes, and thus, if viscidity of the blood be diminished, stagnation of the current, and extravasation of a portion of the contents of the vessels will be the result. But the blood-vessels are also in fault; they have been found "reduced to half their usual thickness; but this seems more probably the result of passive dilatation by loss of contractility, than of original deficiency of the fibrous coat;" and to this want of contractility the hæmorrhagic diathesis may no doubt be in a great measure attributed. The great object of treatment is to increase the quantity of fibrin in the system. This may be done in scrofula—in which disease fibrin is also absent, and is substituted by albumen—by a nutritious diet; but in the hæmorrhagic diathesis we have not the necessary time. It has been discovered that fibrin invariably increases in quantity very rapidly during local inflammation; and Mr. Miller therefore suggests, that by rapidly causing a superficial inflammation at a point distant from the bleeding part, we shall accomplish our purpose; acetate of lead with opium may also be given in large doses. Dr. Christison says, the Pil. Plumb. Opiat., Ph. Ed., is the best astringent he knows. Each pill contains three grains of the acetate of lead, and half a grain of opium; two to six may be given daily; and as we have already noticed, this dose may be considerably increased if the urgency of the case requires it. To diminish the quantity of *serum* in the blood, if the state of the patient will admit of it, is another indication of treatment; and this will be best accomplished by *sulphate of soda*, given in such doses as to purge freely. This salt has been found not only to diminish the quantity of serum, and thereby produce a better relative proportion between the constituents of the blood, but also to preserve the blood globules in their normal state. *Pressure* is another important step to be adopted; and in the case of bleeding after extraction of a tooth, plaster of Paris has been recommended for the purpose. *Styptics* of various kinds—*transfusion*, and a variety of other means of treatment have also been tried. (46.)

The topical application of different preparations of iodine is not resorted to so often as it ought to be. In many cases, no doubt, this mode of treatment is abused, for the sake of finding out something new, or for the mere sake of novelty. The tincture, however, will be found very useful as an external application in many cases—made with iodine ℈i. to alcohol ℥j.—some have strongly recommended it for erysipelas, but it certainly does not possess the specific powers which many have attributed to it—although it may be of great advantage in allaying the burning heat of erythema, and hastening the superficial desquamation which commonly takes place. The tincture, however, is of signal efficacy in ulcers of the tonsils and fauces, specific or non-specific. It is best used in the form of gargle, with ℥ss or ℥ij of the tincture combined with ℥j of laudanum to six ounces of water. This is the form used by Ricord. It is also very useful in many of those troublesome affections of the head in children, as porrigo, or more generally speaking—ringworm of the scalp, comprising all these affections described as tinea, porrigo, eczema, impetigo, &c. Dr. Graves recommends in these cases, that the concreted crusts

should be removed by diligent ablution, without using any violence; that the morbid secreting surface, or vegetable fungi, should next be destroyed by tincture of iodine, or by a solution of lunar caustic or blue stone, ten, fifteen or twenty grains to the ounce. These applications should be well rubbed into each spot with a piece of sponge, at the end of a quill or stick. This should not be repeated oftener than once a week, and the scalp should be covered with a spermaceti ointment after each application, and repeated four times a day, taking care not to wash the head for three days after applying the caustic or tincture of iodine, but then it may be well but gently washed with yellow soap and water, twice a day, taking care to cover as before with a spermaceti dressing after each washing. Another disease in which the tincture is very useful, is that of effusion of fluid in joints. After the acute symptoms have subsided, the part is to be well brushed over with the tincture every day; its application should be preceded by friction with a flannel cloth. We need not refer to the external application of the iodide of potassium, as this favourite form of iodine is too well known to need any comment. The iodide of sulphur is also now pretty well known, especially since the publications of Dr. W. J. Erasmus Wilson and Dr. Davidson. In porrigo it is strongly recommended by the former, in the proportion of ʒss to Ol. Olivar ℥i: the latter uses ℈i to ℈ij in ℥i of lard, applied generally once and sometimes twice a day; but it will probably be found inferior to Dr. Graves's treatment with the tincture. It is also highly recommended in lepra and psoriasis; and in a case of *sycosis menti*, Dr. Ross used it in the form of an ointment, gr. xv. to the ounce, night and morning. The iodide of mercury, ℈i, to ℥iss of lard, as an application to various syphilitic ulcers, is too well known to require a notice here. But not so with regard to the *iodide of zinc*, which Dr. Cogswill says is one of the best applications to chronic enlargements of the tonsillary glands. A solution of ten, fifteen, or thirty grains to the ounce of water, may be applied to the tonsils daily, by a piece of sponge tied to a quill. After using this substance, Dr. Ross uses the substance itself, undiluted; a little of it is exposed to the air till it deliquesces, and then applied in this state to the tonsils by means of a camel's hair brush. Dr. Ross says, "In two patients in which these glands were so much enlarged as almost to fill up the isthmus of the fauces, and interfere materially with deglutition, they were quickly reduced to nearly their natural size." (48.)

Mr. Smee has advanced a theory respecting the action of tartarized antimony in the cure of syphilis, which if found to be correct by subsequent experience, will be a valuable addition to our remedial measures. We should hesitate, however, in putting on one side remedies which have been available for so long a period, without ample proof of the superiority of some new mode of treatment. Mr. Smee says, that by giving very small doses of this drug, frequently repeated, we charge the system with it; thus irritating the capillary system, and inciting it to action throughout the whole body, causing it to throw off the antimony and with it the syphilitic poison. The practitioner should first give an aperient, and then from twenty to sixty drops of antimonial wine every two or three hours, regularly; and in every case where pus or a puriform discharge exists, use at the same time a lotion of chloride of soda, about an ounce of the solution to a pint of water. Mr. Smee's paper is altogether an interesting one, and deserves consideration, especially since the simplicity and harmlessness of such a practice is a great desideratum. (49.)

One of the most tiresome and unsatisfactory cases in surgery is to remedy the deformity caused by cicatrisation after burns. All the ingenuity of the surgeon seems to have been long since exhausted in endeavouring to remedy this disfigurement. The practice of cutting out a portion of the cicatrix, and supplying its place with sound skin from its immediate neighbourhood is not, however, sufficiently known and practised. This operation of *autoplasty*

may be brought into service in all diseases of the trunk, cheek, eyelids, nose, lips, and all other visible parts. (51.)

Another interesting operation is related in the American Journal, viz: that of considerably improving complete anchylosis by operation. This kind of operation was performed by Dr. Barton in 1827, in a case of anchylosis of the hip-joint, and recently by Dr. Gibson, of Philadelphia, in a man whose leg was bent backwards upon the thigh so as to be completely useless, the knee-joint being quite destroyed. The last operation consisted in cutting down upon the thigh-bone a little above the knee, and removing a portion of it of a wedge shape with the saw—the base of the wedge shaped portion being anterior and the apex posterior, so that when the leg was brought gradually downwards and forwards the edges of the two extremities of the femur would be in a tolerable state of juxta-position, which approximation, however, was not accomplished all at once, but very gradually and apparently without much force or extension being at any time employed. (52.)

Mr. Wormald, of St. Bartholomew's Hospital, has long been in the habit of treating various cases of ophthalmia by applying the nitrate of silver to the *outside* of the eyelids, instead of to the internal surface of that membrane. Dr. Hocken explains the mode in which this remedy acts in strumous ophthalmia: The solid nitrate is to be rubbed over the upper and lower eyelids with the view of blackening the surface and thereby acting on the fifth nerve, which is the chief cause of the intolerance of light and irritability of the eye. Mr. Higginbottom, we believe, anticipated both the above mentioned gentlemen in this particular way of applying this valuable remedy to the skin of the eyelids. (53.)

We beg particularly to call the attention of the profession to the articles in the preceding pages on laryngotomy. This is an operation which is certainly neglected in many cases where life might be saved by its means. We think that every surgeon ought to carry in his pocket case some sort of an instrument by which he might be ready on any emergency to perform this simple operation. Even in the few cases of laryngitis or croup in which it is performed, it is too frequently delayed till too late; for when asphyxia approaches it will have little chance of success. In all cases, therefore, in which bloodletting, antimony, mercury, &c., have failed to relieve the disease, and where the strength is evidently giving way rapidly, the difficulty of breathing increasing, and lividity showing the approach of asphyxia, bronchotomy ought to be performed without delay. We quite agree with Louis, that "as long as bronchotomy is considered an extreme measure, it will be always performed too late:" and Dr. C. J. B. Williams judiciously remarks, that if in laryngitis "free bleeding produce no relief, or be not borne, and serious difficulty of breathing have become established, we would not wait for the appearance of pallor or lividity, as recommended by Dr. Cheyne, but we would urge the performance of bronchotomy without delay. To defer the operation on account of the difficulty or danger attending it, is most unreasonable; for experience has proved that these are increased rather than diminished from delay; and the danger from the operation is at no period to be compared with the danger from the obstruction to the breathing that it is calculated to remove. Laryngitis destroys life—not by the extent on the vitality of the organ which it occupies, but by closing, as it were, the door of the breathing apparatus; by opening another door, we render the disease comparatively trivial; and it may then be deliberately attacked by mercurial and other remedies, or, if slighter, even be allowed to run its course, which commonly ends in mucopurulent secretion."

The same remarks will apply equally well to all cases in which respiration is impeded. For this operation the two instruments referred to in Articles 54 and 56, will be found very convenient, and either of them might be carried in a pocket-case of instruments to be ready on any emergency. Mr Hilton's

instrument seems to us the simplest and best adapted for the operation, although Mr. Millikin's is ingenious, and approved of by some of the first men in Dublin. Mr. Hilton's consists of "a curved trochar and canula; the canula being oval from side to side; and the trochar lancet-shaped, much flattened above and below, and cutting at its point and edges. This instrument may be passed through the crico-thyroid membrane into the larynx, or through the trachea, with the greatest facility." It is better to divide the skin first with a lancet, and "the forms of the cutting instrument and canula are so adapted that the canula presses upon the whole of the cut surface, and thus prevents any internal bleeding." Mr. Millikin's instrument is minutely described in article 56. (54.) By means of Mr. Hilton's curved canula which may be allowed to remain in the trachea, the dilating canula of Mr. Dunne, although a very ingenious instrument in some cases, will not be required. (55.)

In the operation for cataract, Mr. Egerton, of Calcutta, and Mr. Morgan, of Guy's Hospital, have recommended a modification, which, although coming from such respectable authority, we should hesitate in adopting. Instead of simply depressing the lens, Mr. Morgan recommends that the needle be gradually drilled or insinuated into the substance of that body before its depression, in order to disturb as little as possible the vitreous humour, which when thus kept from injury, assists very materially in keeping down the opaque lens. Other advantages are stated to result from this mode of operating, which we ourselves cannot perceive. (58.)

Numerous other practical suggestions will be found in the shorter articles in the different pages of this volume, which it will not be necessary for us to recapitulate, as they are already as much condensed as is compatible with a clear exposition. It will hardly be necessary for us to refer to the splendid discoveries of Liebig, as they are already pretty well known to the profession. We have given one of his articles on Animal Heat, which it will not be possible to abridge. (92.)

INDEX TO PART VI.

PAGE

Addison, Mr., on the anatomy of the lungs 45
Aikin, Mr., on syrupus ferri 82
Alum in colica pictonum 32
Alum whey in dyspepsia 35
Amaurosis, strychnia in 147
Amennorrhœa, treatment of 80
Anchylosis cured by operation 132
Animal heat, on the source of 109
Antidote to corrosive sublimate 85
" to strychnia 85
" to arsenic 149
Antimony in syphilis 125
Antimonial treatment of pneumonia 26
Apoplexy, treatment of 37
" caused by dyspepsia & cachexia 38
" " gout 39
" " by diseased heart 39
" " by diseased capillaries 40
Arm presentation, on 167
Arsenic, antidote to 149
" lig. kali. carb. as an antidote to 149
Ascherson, Dr., on cod-liver oil 69
Ashwell, Dr., on chlorosis 78
Assafœtida in hooping cough 86
Autoplasty, operation of, for the cure of cicatrices 130
Belladonna as a preventive of contagion 37
" injection of, in hernia 151
Bellingham, Dr., on turpentine for tapeworm 74
" on the operation for entropion 144
Bennett, Dr., on cod-liver oil 70
Benzoic acid and copaiba in urinary disorders 141
Berncastle, Mr., on the potatoe in sea-scurvy 76
Bird, Dr., on the oxalate of lime in the urine in certain diseases 14
" on an antidote to arsenic 149
Bouchardat on croton oil 84
Bougie, on the introduction of the 93
" best kinds of 93
Brodie, Sir B., on the urinary organs 92
Burns, cicatrices of, cured by autoplasty 130
Burns and scalds treated by solution of gum arabic 145
Bursa, patellar, dispersed by subcutaneous incision 150
Cancer, pain of, relieved by ox-gall 66
Canula, dilating 138
Cantharides in incontinence of urine 30
Cataract, new way of operating for, by Mr. Morgan 142
" on, by Bonnet 151
" sudden formation of 136

PAGE

Chambers, Dr., on his treatment of rheumatism 49
Chlorine in scarlet fever 36
Chlorosis, treatment of 77
Clay, Dr., on the uses of ox-gall 65
Cod liver oil, on 69
Convulsions, treated by Indian hemp 28
Copaiba and benzoic acid in urinary disorders 141
Cormack, Dr., on creosote 72
Cornea, transplantation of the 150
Corrosive sublimate, antidote to 85
Coulson, Mr., on dividing stricture 115
Creosote, Dr. Cormack on 72
Cripps, Mr., on parturition without pains 165
Croton oil, external application of 84
Croup, treatment of 83
Crowing respiration, on the 89
Cysts of the eyelids, on 146
Dalton, Mr., on the potatoe in sea scurvy 75
Dichost on milk 85
Diphtherite treated by nitrate of silver 83
Dropsy, on, by Dr O'Beirne 54
Dunne's Mr., dilating canula 138
Dupasquier on iron 86
Dyspepsia, ox gall in 66
Elbow, on excision of 148
Emmenagogue medicines, on, by Mr. Kirkby 80
Entropion, operation for 144
" treatment of 157
Epistaxis, mode of arresting 89
Ergot of rye in paraplegia 88
Erysipelas, treatment of, by Velpeau 80
Eyelids, cysts of, by Velpeau 146
Evans, Dr., on hip joint disease 151
Finger, reunion of divided 154
Fistula in perineo on 100
Flatulence treated with zinc 31
Fluder, Mr., on iodide of potassium in hydrocephalus 31
Gallic acid in internal hæmorrhage 53
Gibbes, Dr., on nitrate of silver in diphtherite 83
Gibson, Dr., on anchylosis 132
Gleet, treatment of 149
Gnoli on small pox before birth 84
Gondred on effects of caloric on the skin 86
Gravel, treatment of the different kinds of 91
Gravidine in pregnant women 160
Griffith, Dr., on gravidine 161
Guy, Dr., on treatment of incontinence of urine 30
Hæmaturia, on 49
Hæmorrhage from the bladder 49
" " kidney 51
" " urethra 50

Hæmorrhage stopped by creosote..... 73
" after labour, on..... 168
Hæmorrhagic diathesis. on the, Mr Miller 107
" " by Mr. Roberts.. 114
" " by Dr. Bennett.. 114
Hall, Dr. Marshall, on apoplexy and hemiplegia..... 37
" " on the crowing respiration of children..... 89
Hargrave, Professor, on the use of the spleen and vena portæ..... 173
Hare-lip, treatment of..... 158
Heat, animal, on, by Liebig..... 169
" effects of on the skin..... 86
Hemiplegia, treatment of..... 37
Hemp, Indian, on, by Mr. Ley..... 29
Hernia treated by exhaustion through the elastic tube..... 129
" injection of belladonna in..... 151
Hilton, Mr., on laryngotomy..... 135
Hip-joint disease, treatment of..... 151
Hocken, Dr., on strumous ophthalmia..... 133
Hooping cough, assafœtida in..... 66
Hope, Dr., on rheumatism..... 48
Houston, Dr., on hare-lip..... 158
Hughes, Dr., on the treatment of pneumonia at Guy's hospital..... 25
Hulse, Mr., on the action of potash on gum resins..... 72
Humble, Mr., on the contagion of puerperal fever..... 163
Hydrochloric acid in the oxalic acid diathesis..... 20
Hydrocephalus treated by iodide of potassium..... 31
Hydro-thorax, nature of..... 54
" treatment of..... 59
Hysteria, tobacco in..... 82
Indigestion, zinc, &c. in..... 31
" ox-gall in..... 66
Iodide of potassium in acute hydrocephalus..... 31
Iodine, inhalation of..... 45
" different combinations of, by Dr Osbrey..... 63
" topical application of, by Dr. Ross 118
Iron, sulphate of, in erysipelas..... 80
" various preparations of, by Dr. John Todd..... 81
" useful form of syrup of..... 82
" citrate and ammonio-citrate of..... 84
" on proto-ioduret of..... 86
" tincture of, in gleet..... 149
Jones, Mr., on gleet..... 149
Kino in internal hæmorrhages..... 84
Kirkby, Mr., on chlorosis..... 77
" " on emmenagogues..... 80
Klencke, Dr., on cod-liver oil..... 69
Krameria in internal hæmorrhages..... 53
Lane, Mr., on nitrate and oxide of silver. 10
" on effects of lead..... 87
Laryngotomy, on..... 135
Lead, effects of acetate of, in large doses. 87
Leucoma, treatment of..... 155
Lever, Dr., on hæmorrhage after labour.. 168
Lewis, Mr., on parturition without labour pains..... 165
Ley, Mr., on Indian hemp..... 29
Liebig on the causes of the oxalate of lime in the urine..... 17
Liebig on animal heat..... 169
Lime, oxalate of, characteristic of certain diseases..... 14
" mode of detecting..... 14
" source of..... 16
" cause of..... 18
" treatment of..... 19
Lithotrity, on, by Sir B. Brodie..... 103
Lithotomy, bilateral operation of..... 153
Liddicke, Dr., on tannin as an antidote to strychnia..... 85
Lungs, anatomy of, by Mr. Addison..... 44
Lynn, Dr., on an arm presentation..... 167
Magnet, use of, in surgery..... 155
Marasmus, treated by ox-gall..... 68
Mattico as a styptic..... 156
Mercury in hip-joint disease..... 152
Milk, extemporaneous production of..... 85
Miller, Mr, on the hæmorrhagic diathesis. 107
Milliken, Mr., on the tracheotome..... 139
Mimpriss, Mr., on the crowing respiration of children..... 90
Morgan, Mr., on cataract..... 142
Muriatic acid in treating the oxalic acid diathesis..... 20
" " in the phosphatic diathesis. 24
Mutter, Dr., on autoplasty..... 130
Nævus, treatment of..... 157
Nipple, sore, treatment of..... 148
Nitric acid in the treatment of the oxalic acid diathesis..... 20
" in the treatment of the phosphatic diathesis..... 24
O'Beirne, Dr., on dropsy..... 54
Ophthalmia, strumous, treated by nitrate of silver..... 133
Osbrey, Dr., on the uses of iodine..... 63
Oxalate of lime characteristic of certain diseases..... 14
Ox-gall, use of, by Dr Clay..... 65
" in relieving pain of cancer..... 66
" in dyspepsia..... 66
" in constipation from use of opium 69
" in marasmus of children..... 68
Paraplegia, ergot in..... 88
Patterson, Dr., on nitrate of silver..... 9
Pattison, Dr., on nævus..... 157
Payan, M., on ergot in paraplegia..... 88
Phthisis, on, by Sir C. Scudamore..... 40
Placenta, retained..... 167
Pneumonia, treatment of, at Guy's hospital 25
Potash and soda in the treatment of gravel 93
" action of carbonate of on gum resins 72
Potatoe used in sea scurvy..... 75
Pregnancy and parturition without the usual signs..... 165
Puberty in the negress, on..... 166
Puerperal fever caused by contagion..... 163
Quinine, use of, in children..... 89
Retention of urine, on..... 94
Retrospect..... 178
Rhatany root in internal hæmorrhage..... 53
Rheumatism, Dr. Hope's treatment of..... 48
Rhind, Mr., on a solution of gum arabic in burns..... 145
Robertson, Mr., on puberty in the negress 166
Roesch, Dr., on cod-liver oil..... 72
Ruspini's styptic in hæmaturia..... 153
Saw, new cranial..... 164
Scarlet fever, chlorine in..... 30

Scrofula treated by cod-liver oil..... 69
Scudamore. Sir C., on phthisis..... 40
Scurvy, potatoe in..... 75
Silver, on nitrate of..... 9
" on chloride of..... 10
" on ioduret of..... 11
" " preparation of..... 13
" " mode of exhibition.... 13
Silver, saturated solution of, in diphtherite 83
" nitrate of, in strumous ophthalmia. 133
" preservation of nitrate of..... 152
Skate-liver oil..... 71
Small pox before birth..... 84
Smee, Mr., on tartarized antimony in syphilis..... 125
Soda and potash in the treatment of gravel 23
Soden, Mr, on benzoic acid and copaiba in urinary disorders..... 141
Spleen. uses of. by Dr. O'Beirne..... 57
Spleen and vena portæ, use of..... 173
Sprain treated by Indian hemp..... 29
Stafford's. Mr., mode of dividing stricture. 115
Stark, Dr., on gravidine..... 160
Stricture, on, by Sir B. Brodie..... 92
" spasmodic..... 94
" of the anterior part of the urethra 97
" division of, by Mr. Stafford, remarks on..... 99
" Mr. Stafford's mode of dividing. 115
Strong, Dr., on sulphate of zinc in affections of the colon..... 31
Strychnia in amaurosis..... 147
Syphilis treated by tartarized antimony.. 125
Tannin, an antidote to strychnia..... 85
Tape-worm, turpentine for..... 74
Taraxaci liquor..... 74
Tartarized antimony for the cure of syphilis..... 125
Thompson, Dr. A. T., on nitrate and chloride of silver..... 9
Thompson, Dr. J. H., on tobacco in hysteria 82
Tinea, on..... 88
Tobacco in hysteria..... 82
Todd, Dr. J., on various preparations of iron..... 81
Toothache, creosote in..... 73
Tooth, transplantation of a..... 154
Tracheotomy, on..... 135
" new instrument for..... 139
Tubercles, several forms of..... 41
" pathology of..... 42
" softening of..... 43
Ulcers, venereal. creosote in..... 74
Ure, Dr., on cod-livers as a diet..... 71
Urine, incontinence of..... 30
" retention of..... 96
Urinary organs diseases of, by Sir B. Brodie 92
" " benzoic acid & copaiba in..... 141
Uva ursi as an astringent..... 54
Velpeau, Mr., on erysipelas..... 80
" " on cysts of the eyelids.... 146
Venous obstruction general cause of dropsy 55
" effects of, on the vena cava inferior..... 56
Vomiting, creosote in..... 73
Walker, Dr., on benzoic acid and copaiba in urinary diseases..... 141
Watson, Dr., on the treatment of gravel.. 21
" " on chlorine in scarlet fever. 36
" " on hæmaturia..... 49
Webber, Mr., on treatment of hernia..... 129
Wilson, Dr., on laryngotomy..... 137
Womb, extirpation of..... 166
Zinc, sulphate of, in flatulent affections of the colon, &c..... 31

END OF PART VI.